Managing STDs in the Correctional Setting

A Guide for Clinicians

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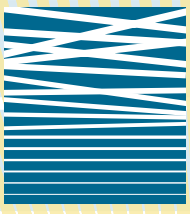

STD/HIV Prevention Training Center *of New England*

A Project of the Division of STD Prevention
Massachusetts Department of Public Health
Funded by the CDC

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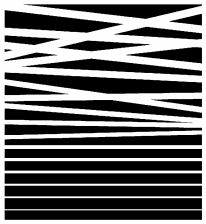

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This guide, which contains CDC recommendations for the prevention of hepatitis B in the correctional setting, was developed to assist clinicians in the prevention and management of STDs. It is meant to be a quick resource guide. We encourage users to consult the CDC Sexually Transmitted Diseases Treatment Guidelines and references for more complete information.

We welcome your feedback on this guide. Any suggestions for improvement will be incorporated in future editions. Please send your comments to: sylvie.ratelle@state.ma.us
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We hope this will be helpful in your correctional health care practice.

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

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A Guide for Clinicians

Contents

Section One:
Epidemiology and Screening Recommendations

EPIDEMIOLOGY:

Sexually transmitted diseases (STDs) cause a range of health problems, from mild acute illness to serious long term consequences, including infertility, ectopic pregnancy, chronic pelvic pain, cancer, liver disease, nervous system damage or disease and death of the newborn, increased transmission of HIV, and more. By definition, STDs occur in networks of sexually interactive individuals and require treatment on both the individual and population level. STDs are frequently asymptomatic but cause significant morbidity for the prisoner, his/her sexual partners, their babies and the community. Given that many of these high risk individuals have not or cannot access health care in the community, incarceration provides an important opportunity to screen for and treat STDs, which should not be missed. Early detection, comprehensive treatment, education, and gathering data to guide care are basic components of public health STD care for correctional settings.

STDs account for four of the top five nationally notifiable diseases reported to the Centers for Disease Control and Prevention [(1)]. Rates of STDs in correction populations vary. In some areas, a substantial proportion of all early syphilis cases are reported from corrections facilities [(2)].

STD screening data from multiple correctional facilities were reported to the CDC and included in the 2004 STD Surveillance Report: Special Focus Profiles: Persons Entering Correctional Facilities [(3)]. Median facility rates of syphilis, gonorrhea, and chlamydia were:

Facility STD Rates (%, range, # of facilities)

	MEN						WOMEN					
	Juvenile			Adult			Juvenile			Adult		
Syphilis reactive test	%	range	#	%	range	#	%	range	#	%	range	#
	0.5	0 – 2.4	5	2.7	0.2 - 5.9	24	0.7	0.0 - 5.1	5	5.3	0.0 - 19	19
Gonorrhea	0.8	0.0 -18.2	49	2.6	0.0 - 33.8	27	4.5	0.0 -16.6	34	2.6	0.0 - 33.8	26
Chlamydia	5.8	1.0-27.5	81	10.2	0.7 - 30.0	35	14.0	2.4 - 26.5	56	7.2	1.2 - 22.7	32

Of adolescent boys testing positive for chlamydial infection at three juvenile facilities, approximately 97% did not report symptoms; of adolescent boys positive for gonorrhea, 93% did not report symptoms [(4)].

SCREENING

Standards for health care services in corrections include screening for STDs. The American Public Health Association (APHA) standards [5] include screening (testing of asymptomatic persons) all prisoners in adult and juvenile facilities, and specifically routine screening for cervical cancer, chlamydia and trichomonas in women. The National Commission on Correctional Health Care (NCCHC) standards [6-8] include diagnostic testing for STDs as part of the health assessment within 7 days of admission to prison or juvenile facilities and within 14 days of admission to jails, as do the standards of the American Correctional Association (ACA) [9].

While providing opportunity for screening, the corrections environment also includes obstacles. Often the first obstacle is the idea that screening for STDs is unimportant compared to competing demands. However, the benefits of STD screening accrue to the greater community, while the costs are immediate, so specific programmatic support and collaboration with public health is important. Space and privacy for the interview and exam may be difficult to obtain and security concerns may interfere. The time window available to accomplish screening varies greatly, with only several hours in lock-up units, hours to days to weeks in jails, and longer in prisons, as does the number of persons passing through and competing processing demands. Thus, to be successful, STD screening needs to be integrated into the intake process.

With time and resources, STD risk factors can be ascertained to guide selective screening. However, for some conditions, this is often impractical, or the underlying prevalence of risk and importance of the disease is such that universal screening is more appropriate.

Universal screening for **syphilis** is required in many states. In many locations, particularly those with more heterosexual transmission, a large portion of syphilis is diagnosed in correctional facilities (12.5% nationally) [2]. The prevalence of syphilis is cyclic, so that even in areas with low rates, correctional settings have played an important role in preventing outbreaks. Access to a computerized syphilis registry is needed to interpret the nontreponemal test (RPR or VDRL) used for screening and differentiate old treated disease from new or recurrent disease. Rapid screening is available using the RPR card test, and has increased treatment rates dramatically in several high volume sites [10].

Universal screening for **chlamydia and gonorrhea** is infrequently done in prisons or jails. Targeted screening based on determination of rates by location, gender, and age group is more common. The high rate of asymptomatic infection, well appreciated in women, is now more recognized in men. Many adult correctional facilities selectively screen for chlamydia and gonorrhea by testing all women or younger women, and evaluating men for symptoms or high risk. Routine chlamydia screening for women age 25 or less is recommended by many professional organizations, including the CDC. Urine-based screening for chlamydia with nucleic acid amplified tests (NAATs) in men under 30 years of age, and in those over 30 with risk factors (history of an STD, or a new or more than 2 sexual partners in the last 2 months) was judged cost-effective and is recommended in Massachusetts [11, 12]. Universal screening for chlamydial infection in juvenile detention facilities is generally recommended. Urine leukocyte esterase had been advocated as an inexpensive method for screening, but problems with sensitivity and the increased availability and performance of NAATs now supercedes this approach in such settings [13, 14].

Key Points

- Screening for STDs (syphilis, gonorrhea and chlamydia) in corrections is the standard of care.
- To be successful, STD screening needs to be integrated into the intake process.
- Urine nucleic acid amplification tests (NAATs) are a convenient, accurate tool for testing for gonorrhea and chlamydia, of great advantage in the correctional environment.

Risk Assessment

Assessment of STD risk, based on individual history and behaviors, is an important component of the overall health history. Risk can be used to guide further testing, client-centered education and counseling for STDs including HIV infection and other communicable diseases. Brief risk assessments have been found feasible and useful at intake despite competing concerns of patient and systems.

Section 2:
Diagnosis and Treatment

The following pages contain:

1. A glossary of tests for the laboratory diagnosis of *Chlamydia trachomatis* and *Neisseria gonorrhoeae*
2. An illustrated guide to frequently encountered sexually transmitted diseases: signs and symptoms, diagnostic laboratory testing and follow-up
3. A laminated chart describing the recommendations for the treatment of STDs in Massachusetts.
4. Diagnostic Assessment and Management Algorithms.

Glossary of Tests for the Detection of *Chlamydia trachomatis* (CT)

CULTURE

The culture requires living *Chlamydia trachomatis* organisms, so adhering to adequate transport conditions is crucial. In the laboratory, the specimens are inoculated in tubes or plates containing living cells (cell culture). The presence of CT will be determined by the demonstration of intracytoplasmic inclusions stained with fluorescent monoclonal antibody, Giemsa or iodine. This test can be used for all anatomical sites, except for urine where sensitivity is very poor (<20%). The test is 100% specific, but the sensitivity is probably no higher than 90%.

ANTIGEN DETECTION METHODS

These tests detect organisms by serological means. The organisms do not need to be alive.

Enzyme Immuno Assay (EIA) (Chlamydiazyme EIA®, Pathfinder EIA®, Microtrak EIA®, etc): CT particles present in the specimen will adhere to antibody coated beads in wells. Enzyme linked antibody binds to the complex. The enzyme causes a color change in the substrate. The intensity of the color is proportional to the quantity of CT antigens adsorbed to the beads. This test is approved for use in urethral, cervical and conjunctival specimens. It is now used less often because new tests are more sensitive. The sensitivity range is 40% to 60%, with a specificity of up to 99.5% when the blocking assay is added.

Direct Fluorescent Antibody (DFA) (Microtrak DFA®, Ortho Chlamydia DFA®, etc.): Specimens are rolled onto a glass slide. They are then stained with fluorescent monoclonal antibodies which bind with CT particles. The slide is then examined under a fluorescent microscope. Elementary bodies will appear as round, apple green particles. The test can be used on urethral, cervical, conjunctival and rectal specimens. It is not used often because it is time consuming to read and requires a fluorescent microscope. The sensitivity range is 40% to 60% with a specificity of 99.5%.

NUCLEIC ACID METHODS

These tests determine the presence of CT by identifying a RNA sequence specific to CT. These tests are either non-amplified or amplified

Non Amplified Nucleic Acid Hybridization Assay (DNA probe) such as Gen-Probe PACE®: A chemiluminescent DNA probe targets a complimentary portion of the 16S rRNA of CT. The resulting DNA:rRNA hybrid is luminescent and light is captured by a luminometer. A competitive probe assay is available to increase specificity. The test is approved for urethral, cervical and conjunctival specimens. The sensitivity range is 40% to 65%, with a specificity of 99%.

Nucleic Acid Amplified Tests (NAAT): Minute amounts of specific RNA or DNA sequences are amplified enzymatically to the extent that a sufficient quantity of material is available to reach a threshold signal for detection. These tests include the strand displacement assay (SDA) such as the BD Probetec®, the polymerase chain reaction (PCR) such as Amplicor® and the transcription-mediated amplification (TMA) such Aptima®. These tests are currently the most sensitive tests on the market. Whereas all the other non-culture tests require at least 10^4 elementary bodies to test positive, in theory only one particle is required for the amplified tests to be

positive. These tests can be used on male or female urine with performance characteristics similar to urethral and cervical specimens. The sensitivity exceeds 90% and the specificity exceeds 99%.

TEST SELECTION BY SPECIMEN TYPE:

Cervix: any of the above tests. NAAT preferred because of high sensitivity.
Urethra (male): any of the above tests. NAAT preferred because of high sensitivity.
Urine: NAATS only. Can be used for male and females to detect genital infections.
Rectum: culture or DFA. Other tests not approved.
Medical-legal: culture only.

Glossary of Tests for the Detection of *Neisseria gonorrhoeae* (GC)

Gram Stain

The Gram stain is most reliable for the detection of GC among males with symptomatic urethral infections (urethral discharge) (sensitivity and specificity is similar to culture when stained and read by an experienced microscopist). The presence of Gram negative intracellular diplococci (NGID) is indicative of the presence of GC. The Gram stain is not recommended for cervical (low sensitivity and variable specificity) and pharyngeal specimens (low specificity).

Culture

Specimens are directly inoculated on selective media that contain antibiotics to inhibit competing bacteria (Thayer-Martin, New York City Medium). Non selective media (chocolate agar) can be used for specimens collected from sites that are normally sterile (blood, CSF, joint fluid). Within 15 minutes, the inoculated plate should be placed into a 3 to 10% CO_2 atmosphere (CO_2 incubator, candle jar, bag & pill). Within 4 hours from the time of inoculation, the inoculated plate should be incubated at 36 degrees Celcius. Cultures should be incubated for a minimum of 12-16 hours before transporting to a laboratory not within the clinic setting. Cultures must be protected from temperature extremes during transport to the laboratory. Transport medium may be used (Amie's or Stuart) if specimen can be inoculated within 6 hours (do not refrigerate). Cultures are 100% specific. Sensitivity varies by site (70% to 95%). Can used for all anatomical sites and antibiotic susceptibility testing.

Antigen Detection Methods (EIA, DFA)

Rarely available/used for the detection of GC

Nucleic Acid methods

These tests determine the presence of GC by identifying a RNA sequence specific to GC. These tests are either non-amplified or amplified

Non Amplified Nucleic Acid Hybridization Assay (DNA probe) such as Gen-Probe PACE®**.** A chemiluminescent DNA probe binds to a complimentary portion of RNA (16sRNA) of GC. The resulting DNA:RNA hybrid is luminescent and detected by a luminometer. Sensitivity is 85% to 90% and specificity is 95% to 100%.

Nucleic Acid Amplified Tests (NAAT): Minute amounts of specific RNA or DNA sequences are amplified enzymatically to the extent that a sufficient quantity of material is available to reach a threshold signal for detection. These tests include the strand displacement assay (SDA) such as the BD Probetec®, the polymerase chain reaction (PCR) such as Amplicor® and the transcription-mediated amplification (TMA) such Aptima®. Commercial PCR and SDA have cross-reacted with nongonococcal Neisseria species. Sensitivity is 94% to 100% and specificity is over 99%.

Test selection by Specimen Type:

Cervix: Culture or nucleic acid methods.

Urethra (male): culture or nucleic acid methods. Gram stain (if available) is useful for men presenting with urethritis (discharge)

Urine: NAATS only. Can be used for male and females to detect genital infections.

Rectum: culture. Other tests not FDA approved.

Pharynx: culture. Other tests not FDA approved.

Medical-legal: culture.

Frequently Encountered Sexually Transmitted Infections: Signs and Symptoms; Diagnostic Laboratory Testing; Follow-up

Syphilis

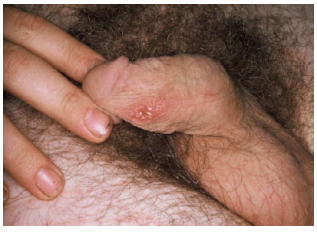
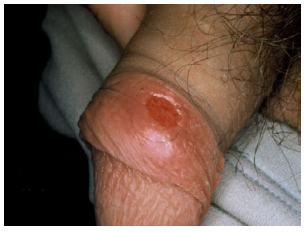
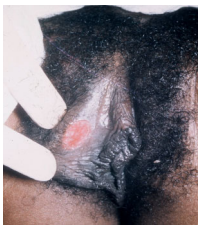
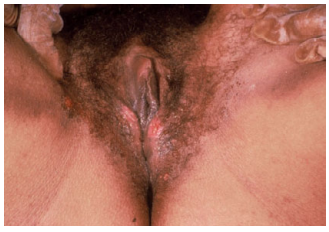
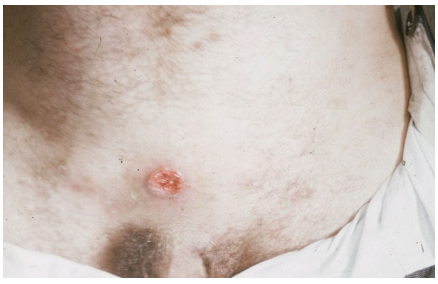
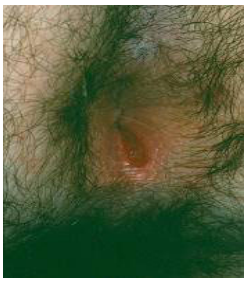
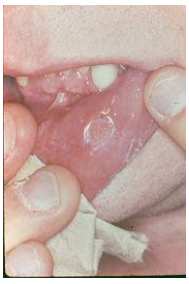
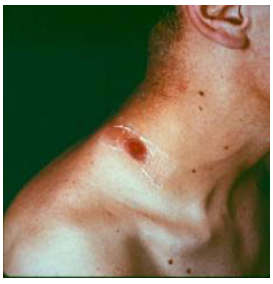
PRIMARY

- Local lesion at the site of inoculation, so could appear anywhere on body. Common non-genital sites include mouth, fingers, breasts.
- May initially appear as a macule or papule, which may progress to typically painless, indurated ulcer with clean base and smooth firm border.
- Up to 25% present with multiple lesions. Multiple and extensive lesions more common in HIV infected persons.
- Atypical chancres may occur and can mimic herpes (although syphilis is very rarely or never vesicular) or chancroid.
- Regional adenopathy is classically rubbery, painless, bilateral.

Diagnostic laboratory testing:

- **Darkfield microscopy:** Ideal, but generally not available in correctional settings. For use on non-oral lesions only (non-syphilis spirochetes may be present as normal flora in the periodontal spaces). Must be performed by experienced microscopist.
- **Serologic testing for syphilis:** nontreponemal (NT) test (RPR/VDRL). Confirm if positive by a treponemal test (FTA-ABS/TP-PA). NT tests may be negative in up to 25% of cases of primary syphilis. TP-PA and FTA-ABS may be more sensitive in primary syphilis.

Chancre - Primary Syphilis

SECONDARY

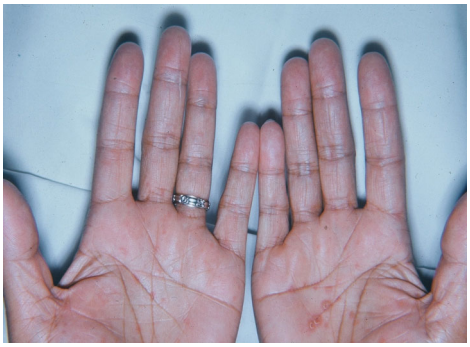
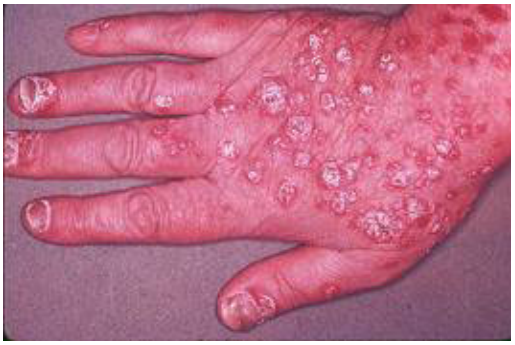
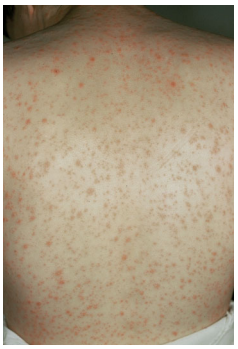
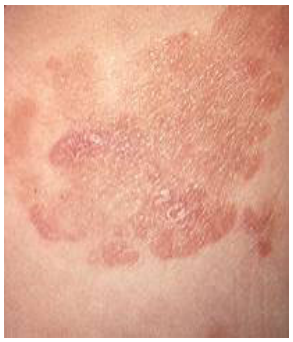
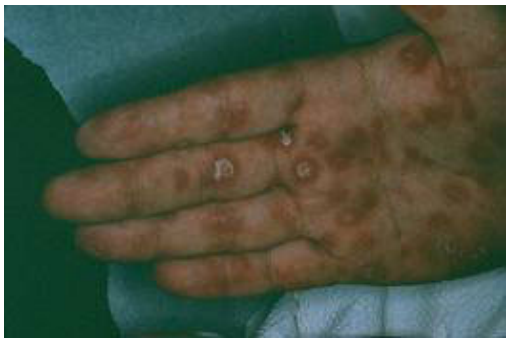
- 6 weeks to 6 months after primary lesion resolves.
- Rash (75-90%): macular, papular, squamous (scale), pustular (rare), combination; usually nonpruritic; may involve palms and soles in 60%; the rash may be infectious.
- **Any new onset macular, papular or squamous rash, especially involving the plams and soles, should be evaluated to rule out secondary syphilis.**
- Generalized lymphadenopathy (70-90%).
- Constitutional symptoms (50-80%), most commonly malaise.

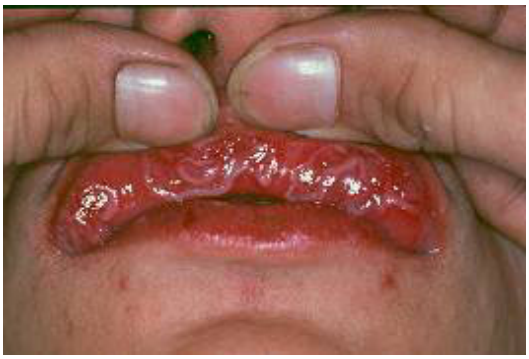
- Mucous patches (5-30%): flat patches involving oral cavity, pharynx, larynx, and genitals.
- Condylomata lata (5-25%): moist, heaped, wart-like papules that occur in warm intertriginous areas (most commonly, gluteal folds, perineum, perianal); teeming with treponemes.
- Alopecia (10-15%): patchy occipital and bitemporal, loss of lateral eyebrows.

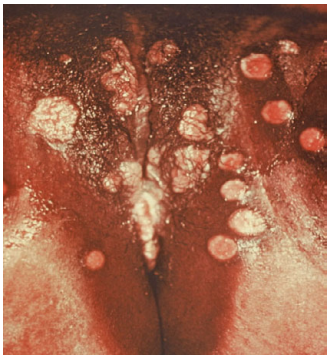
Diagnostic laboratory testing:

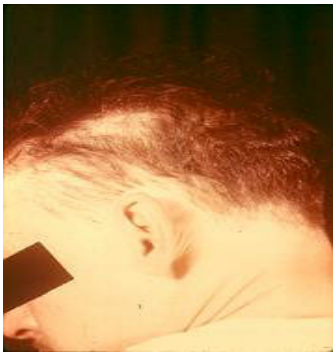
- **Serologic testing for syphilis:** nontreponemal (NT) test (RPR/VDRL). Confirm if positive with a treponemal test (FTA-ABS/TP-PA). Virtually always positive in secondary syphilis. Prozone reaction may occur if there is an especially high antibody titer, resulting in a false negative NT test. If clinical suspicion of secondary syphilis is high, the lab should dilute the serum to at least a 1:16 dilution to rule out the prozone effect. Serologic response in HIV-infected persons generally similar to uninfected persons.
- Serological tests for syphilis are equivalent in sensitivity in HIV-infected and non-HIV-infected persons in the majority of patients. If clinical suspicion is high for syphilis and the serologic tests are negative, then biopsy of the lesion or rash is recommended.

Secondary syphilis


Mucous Patches


Condyloma Lata


Alopecia

LATENT SYPHILIS

- Latent syphilis is defined by the presence of a positive NT test and positive treponemal test (TT) in the absence of signs and symptoms of syphilis.
- **Early latent**: less than one year duration as evidenced by documented seroconversion, unequivocal signs/symptoms of primary and secondary (P&S) syphilis, or sexual contact with a case of P&S, or early latent within the year.
- **Late Latent**: more than one year duration.
- **A CSF EXAMINATION SHOULD BE PERFORMED ON ALL HIV POSITIVE PATIENTS WITH LATE LATENT SYPHILIS OR LATENT SYPHILIS OF UNKNOWN DURATION TO GUIDE TREATMENT DECISIONS.**

Notes about Syphilis Serology

- Although NT tests titers are expected to decline (see below) after adequate treatment, they may remain positive (not all patients serorevert and some may be "serofast"). TT generally remain positive for life after adequate treatment. Therefore, they are not used to assess treatment adequacy or reinfection.
- Consult the STD program for managing patients with a positive serology. Information on prior serology results and treatment may be available through the STD program serology databank. Clinical staff is also available to assist in patient management issues.
- **ALL PATIENTS WITH SYPHILIS SHOULD BE ASSESSED FOR HIV INFECTION AND OTHER STDs.**
- **All cases of syphilis must be reported to the health department.**
- **See laminated treatment guide for treatment recommendations.**

RECOMMENDED FOLLOW-UP AFTER TREATMENT

Primary and Secondary Syphilis: HIV Negative Patients

- Clinical evaluation at 1-2 weeks, and then one month after treatment to ensure improvement and resolution of symptoms.
- Reexamine serologically and clinically thereafter at 6 and 12 months.
- Fourfold drop in NT test titers generally expected after 6 months.
- Consider treatment failure if sustained (2 weeks) fourfold increase in NT tests titer, signs and symptoms persist, or NT test titer fails to decrease after 6 months. Perform CSF examination if treatment failure (assuming reinfection ruled out). If no evidence of neurosyphilis per CSF examination, retreat with three doses of benzathine penicillin.

Primary and Secondary Syphilis: HIV Positive Patients

- Clinical evaluation at 1-2 weeks, and then one month after treatment to ensure improvement and resolution of symptoms.
- Rexamine clinically and serologically thereafter at 3,6,9,12 and 24 months.
- CSF examination if treatment failure suspected (see above). If no evidence of neurosyphilis per CSF examination, retreat with three doses of benzathine penicillin.

Latent Syphilis: HIV Negative

- Serologic (NT test) evaluation at 6, 12 and 24 months.
- A titer of > 1:32 should drop fourfold within 12 to 24 months.
- Titers are often low and a fourfold decrease may not occur (serofast).
- If titer increases fourfold, signs and symptoms of syphilis reappear or an initially high titer (>1:32) does not decrease fourfold within 12 to 24 months, perform CSF examination.

Latent Syphilis: HIV Positive

- Reexamine serologically and clinically at 6, 12, 18 and 24 months.
- If titer increases fourfold, signs and symptoms of syphilis reappear or an initially high titer (>1:32) does not decrease fourfold within 12 to 24 months, perform/repeat CSF examination.

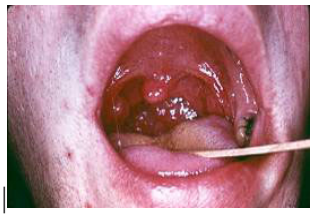
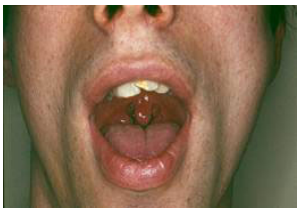
Gonorrhea

PHARYNX

- Generally asymptomatic.
- Otherwise, signs and symptoms similar to other causes of pharyngitis.

Diagnostic laboratory testing:

- Culture is the only FDA approved test for the pharynx.

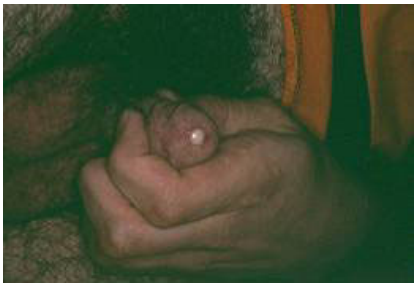
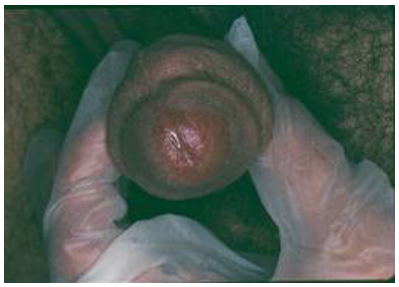



URETHRA (MALE)

- May be asymptomatic.
- Typically purulent urethral discharge often accompanied by dysuria.
- Purulent or mucopurulent urethral discharge is common, but discharge may be clear or cloudy.

Diagnostic laboratory testing:

- Gram stain: Presence of Gram negative intracellular diplococci (GNID) diagnostic for gonorrhea (95% sensitive and 99% specific). Reliable both to diagnose and exclude gonorrhea in men. Sensitivity less for asymptomatic urethritis (50%). Generally not available on correctional settings.
- Culture or Nucleic Acid Amplified Tests (NAATs), enzyme immunoassay (EIA), DNA probe (Gen-Probe PACE II), direct fluorescent antibody (DFA). Culture has the advantage of antibiotic susceptibility testing.

CERVIX

- Generally asymptomatic.
- Symptoms if present often nonspecific and may include abnormal vaginal discharge, intermenstrual bleeding, dysuria, lower abdominal pain or dyspareunia.
- Generally no signs (90%). If present, mucopurulent, or purulent cervical discharge or easily induced bleeding.

Diagnostic laboratory testing:

- Gram stain not reliable (50% sensitive).

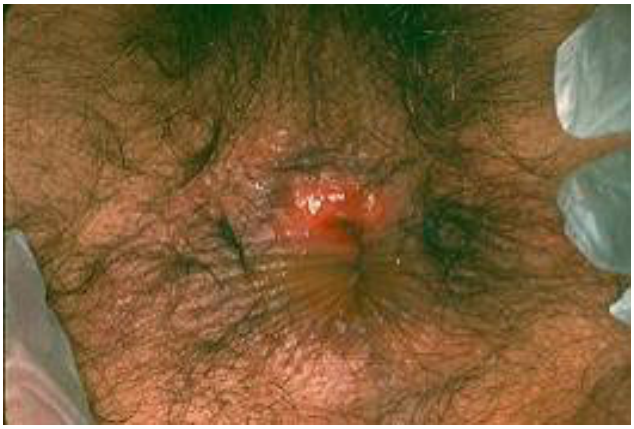
- Culture or Nucleic Acid Amplified Tests (NAATs), enzyme immunoassay (EIA), DNA probe (Gen-Probe PACE II), direct fluorescent antibody (DFA).
- Regulations may require testing of all sentenced women.

ANUS/RECTUM

- Most cases asymptomatic.
- Occasional proctitis.
- Anal irritation, painful defecation, constipation, rectal bleeding and/or discharge, tenesmus, mucopus and mucosal erythema.

Diagnostic laboratory testing:

- Culture only FDA approved test for this anatomical site.



Follow-up

- Test of cure generally not recommended unless symptoms persist. Follow local/state recommendations for treatment. Quinolones no longer recommended in some states (including Massachusetts) because of increasing resistance.
- All cases of gonorrhea must be reported to the health department.

Chlamydia

PHARYNX

- Asymptomatic.

Diagnostic laboratory testing:

- Culture only FDA approved test at this anatomical site. Screening/testing generally not recommended.

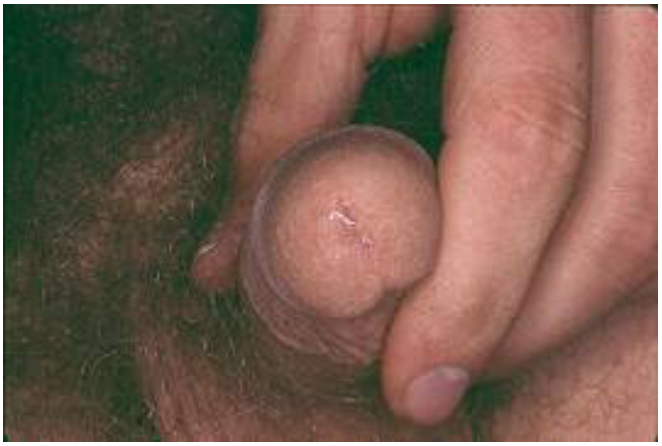
URETHRA (MALE)

- Most often asymptomatic.
- Symptoms if present include discharge, dysuria, itching.

- Discharge if present is clear and mucoid.

Diagnostic laboratory testing:

- Nucleic Acid Amplified Tests (NAATs), enzyme immunoassay (EIA), DNA probe (Gen-Probe PACE II), direct fluorescent antibody (DFA), culture.



CERVIX

- Most often asymptomatic.
- Symptoms if present often nonspecific and may include abnormal vaginal discharge, intermenstrual bleeding, dysuria, lower abdominal pain or dyspareunia.
- Generally no signs (90%). If present, mucopurulent, or purulent cervical discharge or easily induced bleeding.

Diagnostic laboratory testing:

- Nucleic Acid Amplified Tests (NAATs), enzyme immunoassay (EIA), DNA probe (Gen-Probe PACE II), direct fluorescent antibody (DFA), culture. NAATS preferred because of high sensitivity.
- Screening recommended for all sexually active women age 25 or less. Regulations may require testing of all sentenced women.

ANORECTAL (NON-LYMPHOGRANULOMA VENEREUM)

- Often asymptomatic.
- Symptoms, if present, may consist of rectal pain, discharge, abnormal anoscopy (mucopurulent discharge, pain, spontaneous or induced bleeding).

Diagnostic laboratory testing:

- Culture or Direct Immunofluorescent Antibody test (DFA).

ANORECTAL (LYMPHOGRANULOMA VENEREUM)
(*C. trachomatis* L1, L2, L3)

- Usually symptomatic, with rectal pain, discharge, abnormal anoscopy. (mucopurulent discharge, pain, spontaneous or induced bleeding).

Diagnostic laboratory testing:

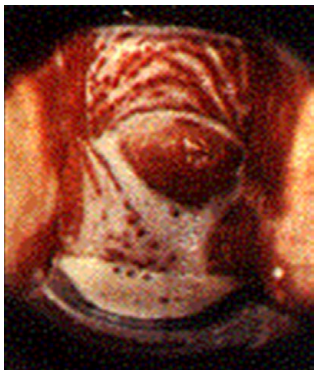
- Culture (or other test for *Chlamydia trachomatis*) from anorectal mucosa can support the diagnosis. Serological test for chlamydial infection may be helpful. Contact the Health Department for more information on diagnostic testing and management.

Follow-up for non LGV chlamydial infections

- Test of cure not recommended unless symptoms persist, the patient is pregnant or erythromycin was used for treatment. Test of cure should be conducted no earlier than three weeks after completion of therapy.
- All cases of chlamydial infection must be reported to the health department.

Trichomonas Vaginalis

- Up to 50% of infected women are asymptomatic, although 30% of those who are asymptomatic will become symptomatic within 6 months.
- Symptoms, when present, include “frothy" gray or yellow-green vaginal discharge, pruritus, dysuria, dyspareunia.
- Signs include “frothy" gray or yellow-green vaginal discharge.
- Signs of cervical petechiae ("strawberry cervix" or colpitis macularis) are a classic presentation, but occur in a minority of patients.
- Can also infect Skene's ducts and urethra.



Diagnostic laboratory testing:

- Wet preparation of vaginal secretions, culture in Diamond’s medium or InPouch TV, rapid testing such as OSOM TV or DNA-probe Affirm VP III.

Follow-up

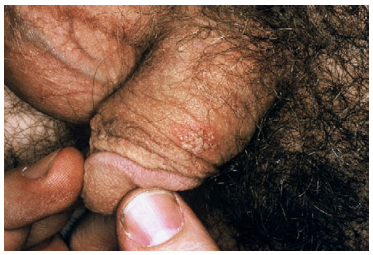
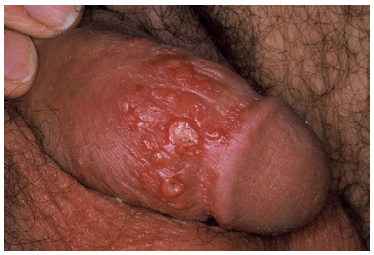
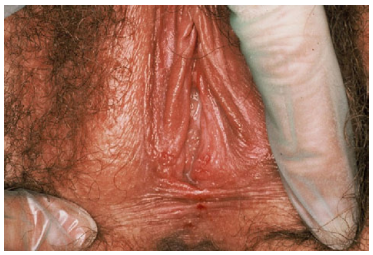
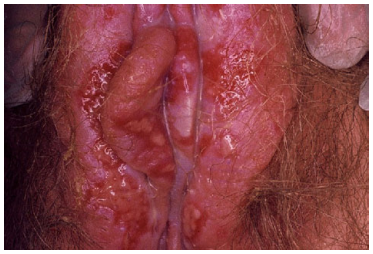
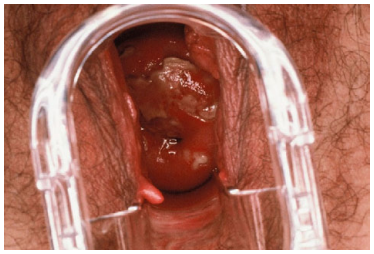
- Not recommended unless symptoms persist. Some infections may not respond to the single dose regimen.

HERPES SIMPLEX VIRUS INFECTION

Primary initial infection

- Papules → vesicles → pustules → ulcers → crusts → healed. Illness lasts 2-4 weeks.
- Often associated with systemic symptoms, including fever, headache, malaise, myalgia (40% men, 70% women); urinary retention/aseptic meningitis in 10% of women.
- Systemic symptoms peak within 3-4 days of onset of lesions and gradually recede over next 3-4 days.
- Local symptoms are predominantly pain (95%), itching, dysuria (60%), vaginal (85%) or urethral (30%) discharge, and tender inguinal adenopathy (80%).
- Painful genital lesions are numerous and bilateral; last an average of 11-12 days; full re-epithelialization takes an average of 17-20 days.
- Inguinal adenopathy peaks in week 2-3 and is often the last finding to resolve. Nodes are firm, nonfluctuant and tender to palpation. Suppuration rare.

- Primary HSV cervical infection occurs in 90% of primary HSV-2 infection and ~70% of primary HSV-1 infections. The associated cervicitis may be mucopurulent, friable, or frankly hemorrhagic, and discrete ulcerations may be seen. Clinical differentiation from gonococcal or chlamydial cervicitis may be difficult, although cervical ulceration is more suggestive of HSV.

Recurrent infection

- Prodromal symptoms (localized tingling, irritation) in ~50% begin 12-24 hours before lesions and sometimes without lesions ("false prodrome").
- Duration is shorter than in primary infection: painful genital lesions last 4-6 days; average duration of viral shedding 4 days.
- Lesions tend to be unilateral.
- Symptoms tend to be milder and less severe. Usually there are no systemic symptoms.
- Rate of cervical virus shedding in women is 12-20%.
- Average of 2-6 recurrences/year, but highly variable.
- HSV-2 primary infection is much more prone to recur than HSV-1 primary infection.
- HSV-2 will recur slightly more frequently and after shorter period of time in men than in women; median 5 recurrences per year compared with 4 in the first year of infection.
- Recurrences are more frequent if the primary episode is prolonged >30 days.

In HIV-infected persons:

- Lesions caused by HSV infection are common, and may be severe, painful, prolonged and atypical.
- Large number and size of ulcers, frequently in the perianal area.
- Chronic HSV-2 ulcers of greater than 1 month duration are considered an AIDS-defining illness in individuals with HIV infection.
- In severely immunocompromised patients, HSV-2 may present as hyperkeratotic verrucous lesions which mimic condyloma.

Laboratory Diagnosis

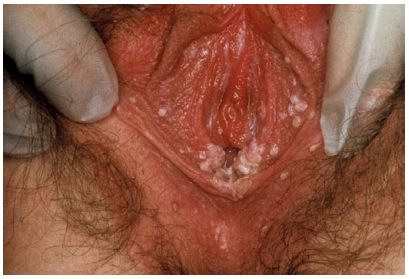
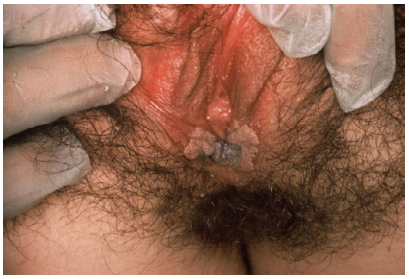
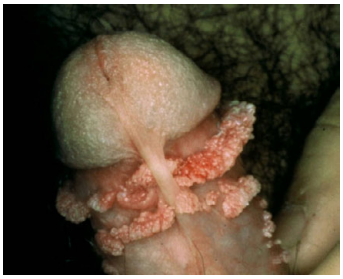
- Viral culture is the preferred method when lesions are present. Viral recovery depends on the stage of the lesions and proper collection technique (vesicles: 90%, ulcers: 70%, and crusted lesions: 30%). Culture more commonly positive in primary infection (80% to 90%) as compared with recurrences (30%).

- Antigen detection (DFA or EIA) is fairly sensitive (>85%) in symptomatic shedders and highly specific (can differentiate HSV-1 from HSV-2 or VZV using monoclonal antibodies). May be better than culture for healing lesions.

HUMAN PAPILLOMAVIRUS (HPV) INFECTION

External Genital Warts (EGW)

- **Condylomata acuminata:** Cauliflower-shaped, flesh-colored, pink, or hyperpigmented. May be keratotic on skin; generally non-keratinized when present on mucosal surfaces.

- **Smooth papules**: usually dome-shaped and skin-colored.
- **Keratotic warts:** with thick horny layer which can resemble common warts or seborrheic keratosis.
- **Flat papules**: Macular to slightly raised. Flesh-colored, with smooth surface. More commonly found on internal structures (i.e., cervix), but also occur on external genitalia.
- Sites: Commonly occur in areas of coital friction. Men: shaft, frenulum, corona, glans, prepuce, meatus, anus, scrotum. Women: posterior introitus, labia minora, labia majora, perineum, vagina, cervix, anus. Perianal warts do not necessarily indicate anal intercourse, but may be secondary to autoinoculation or sexual activity other than intercourse. Cervical and vaginal condylomata are less common than external warts. HPV types causing genital warts can occasionally cause lesions at oral,upper respiratory, upper GI, and ocular locations.

In HIV-infected Persons

- Lesions may be more extensive and resistant to treatment.
- Condyloma has been associated with a significant risk for transformation into squamous cell carcinoma.

Diagnosis of External Genital Warts (EGW)

- Physical exam: Visual inspection with bright light is generally sufficient for diagnosis of genital warts. Acetic acid evaluation of external genitalia is of limited value in routine clinical practice and is not recommended for evaluation of external genitalia. Acetowhitening (whitened area of skin or mucosa after application of 3-5% solution of acetic acid solution) has low specificity, as low as 50-60% (many false positives); often noted at sites of prior trauma/inflammation.
- No role of HPV DNA testing for the diagnosis of EGW.

Follow-up

- Treatment modality should be changed if a patient has not substantially improved after three provider-administered treatments or if warts have not completely cleared after six treatments.
- Consider biopsy if atypical presentation of lesions (dark, ulcerated, fixed, indurated, extensive), if lesions worsen during therapy or are unresponsive to standard therapy, and in immunocompromised hosts.

- After diagnosis and successful treatment of EGW, follow-up is not necessary. Patients should return if lesions recur. Regardless of treatment, up to 2/3 of patients will experience recurrences of EGW within 3 to 6 months of therapy. Many patients will experience multiple recurrences after treatment.
- Annual cytology screening of the cervix is recommended for women with or without EGW. The presence of EGW is not an indication for colposcopy.

Molluscum Contagiosum

- Caused by poxvirus, no longterm adverse effects.
- Presents as scattered umbilicated papules, usually in genital area but may be disseminated especially in advanced HIV with immunosuppression.
- Treatment: ablative (cryotherapy, curettage and other) as needed.

Diagnosis:

- Visual inspection.

Follow-up:

- None. Return if recurrence.

Important Findings at Examination & Specimen Collection

WOMEN

Skin of face, trunk, legs, forearms and palms	Lesions or rashes consistent with secondary syphilis, disseminated molluscum.
Lips, tongue, tonsils, hard & soft palate, buccal mucosal, gums	Mucous patches, orolabial herpes, primary syphilis lesions, signs of pharyngitis.
Specimens	Swab of tonsils and posterior oro-pharynx for gonorrhea culture (and chlamydia, if culture is available)
Axillary, cervical, epitrochlear, inguinal/femoral lymph nodes	Adenopathy
Abdomen	Lower abdominal or pelvic tenderness consistent with PID
External genitals	
Pubic Hair	Crabs or nits
Pubic, genital, and perineal skin	Lesions or eruptions consistent with primary or secondary syphilis, herpes, condyloma lata, molluscum contagiosum, or scabies
Inferio-lateral introitus	Tenderness, erythema or fluctuant mass consistent with bartholinitis
Urethral meatus	Discharge (following milking of urethra)
Specimens	Special testing of lesions (e.g. Darkfield, HSV culture) if present
VAGINA	
Vaginal walls	Edema or lesions
Vaginal vault	Vaginal secretions consistent with bacterial vaginosis, trichomoniasis or candida
Specimens	Swab of lateral vaginal walls for vaginal pH, KOH "whiff" test, and saline wet prep (for motile trichomonads or clue cells) and KOH wet prep (for pseudohyphae or buds). Trichomonads culture (Diamonds media or InPouch TV) if available.
CERVIX	
Cervix and os	Ulcerations, nodules, polyps, ectopy, friability, cervical petechia (i.e. strawberry cervix), or mucopurulent discharge from the cervical os.
specimens	Endocervical swab for gonorrhea and chlamydia testing; Pap smear if indicated. In women with hysterectomy, specimens for gonorrhea and chlamydia can be taken from the urethra, or testing can be performed on urine with an appropriate FDA approved test for gonorrhea/Chlamydia (NAAT).
Uterus and Adnexa	On bimanual exam: cervical motion tenderness or tenderness of the uterus or adnexa consistent with PID; adnexal mass consistent with a tubo-ovarian abscess.

Important Findings at Examination & Specimen Collection, *cont.*

MEN

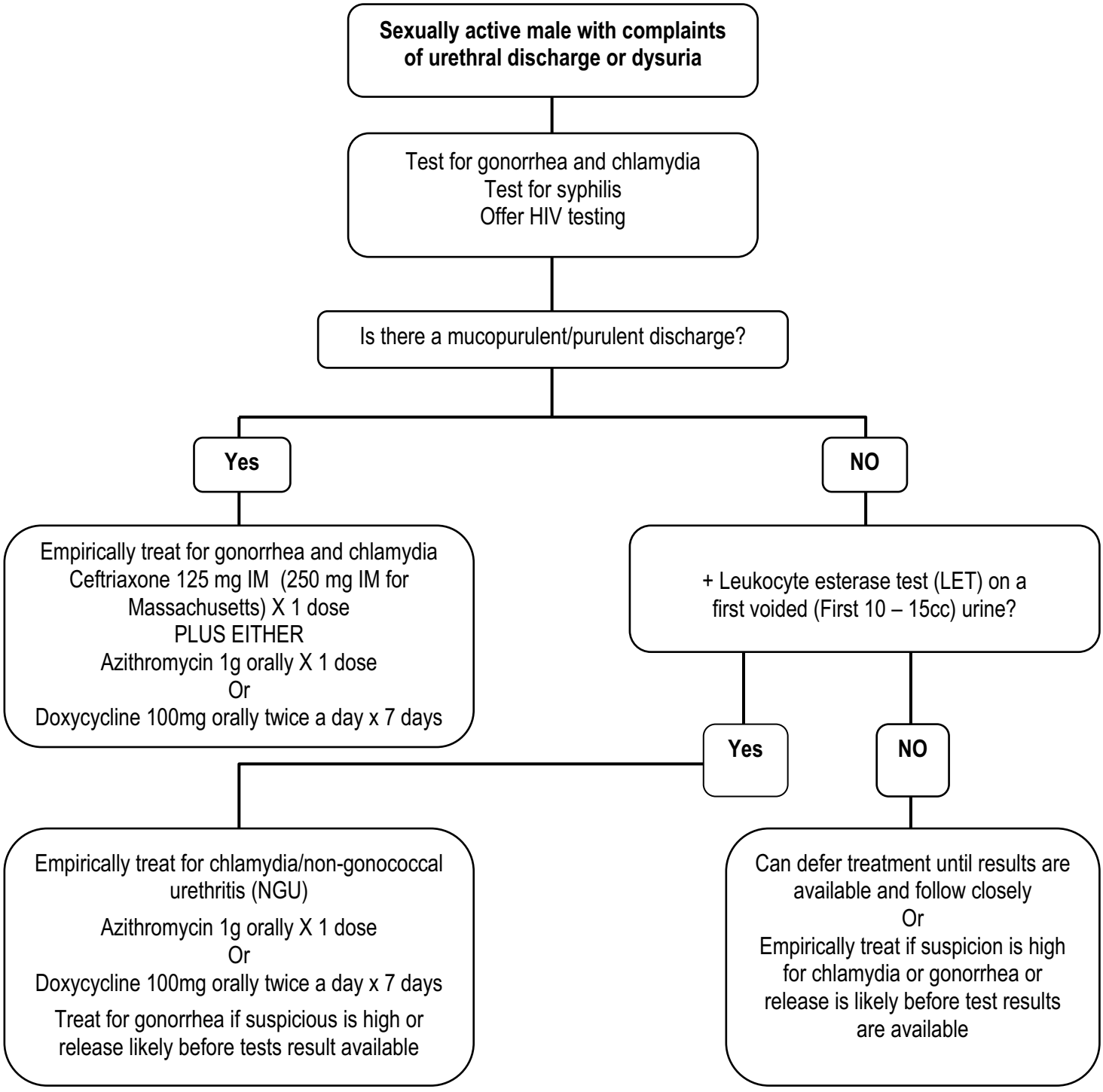
Examination	Important Findings & Specimens
ANO-RECTAL	
Skin of the anus	Ulcerations, condyloma or other lesions
Specimens	Rectal swab for gonorrhea culture (and chlamydia culture if available). Anoscopic exam and specimen collection (including gram stain for gonorrhea if available) should be considered in patient with rectal symptoms and recent history of anal receptive sex.
SKIN	
Oral Lymph nodes	See previous pages
GENITALS	
Pubic Hair	Crabs or nits
Skin of the penis, scrotum, and perineum	Lesions or eruptions consistent with primary or secondary syphilis, herpes, condyloma accuminata, molluscum contagiousum, or scabies
Urethral meatus	Popular lesions consistent with intraurethral warts; discharge (following milking/stripping of the penis)
Testes and epididymis	Swelling or tenderness consistent with epididymitis
Specimens	Intra-urethral swab (inserted 2-3 cm) or urine for gonorrhea and chlamydia testing. Gram stain of urethral smear if available. If trichomonads urethritis is suspected, first void urine (concentrated 10x) for trichomonads, or urethral swab/urine for culture. Special testing (e.g. Darkfield or HSV culture) of lesions if present.
ANO-RECTAL	See previous pages

Diagnostic Assessment and Management Algorithms

As in the community, different approaches may be appropriate for those patients for whom follow-up can and cannot be assumed. In some, further incarceration is definite and awaiting results of test does not compromise care, and treatment courses can be longer. In others, as is typical in STD clinics, the patient may be released at any point and be unable to locate, so that empiric, single-dose treatment is favored.

The following pages describe suggested algorithms for the management of STD related syndromes encountered in a correctional setting.

Male Urethral Discharge/Gram Stain Unavailable



C. trachomatis causes 20% to 40% of cases of non-gonococcal urethritis (NGU), and some studies indicate that *Mycoplasma genitalium* and *Ureaplasma urealyticum* may cause an additional 10% to 20%. Occasionally, urethritis results from infection with *Trichomonas vaginalis*, adenovirus or herpes simplex virus. Most patients with urethritis due to genital herpes infection will have obvious herpetic penile lesions, and many with urethritis due to *T. vaginalis* will have sex partner with trichomonal vaginitis.

Treat sexual partners of all persons infected with chlamydia and/or gonorrhea.

URETHRITIS

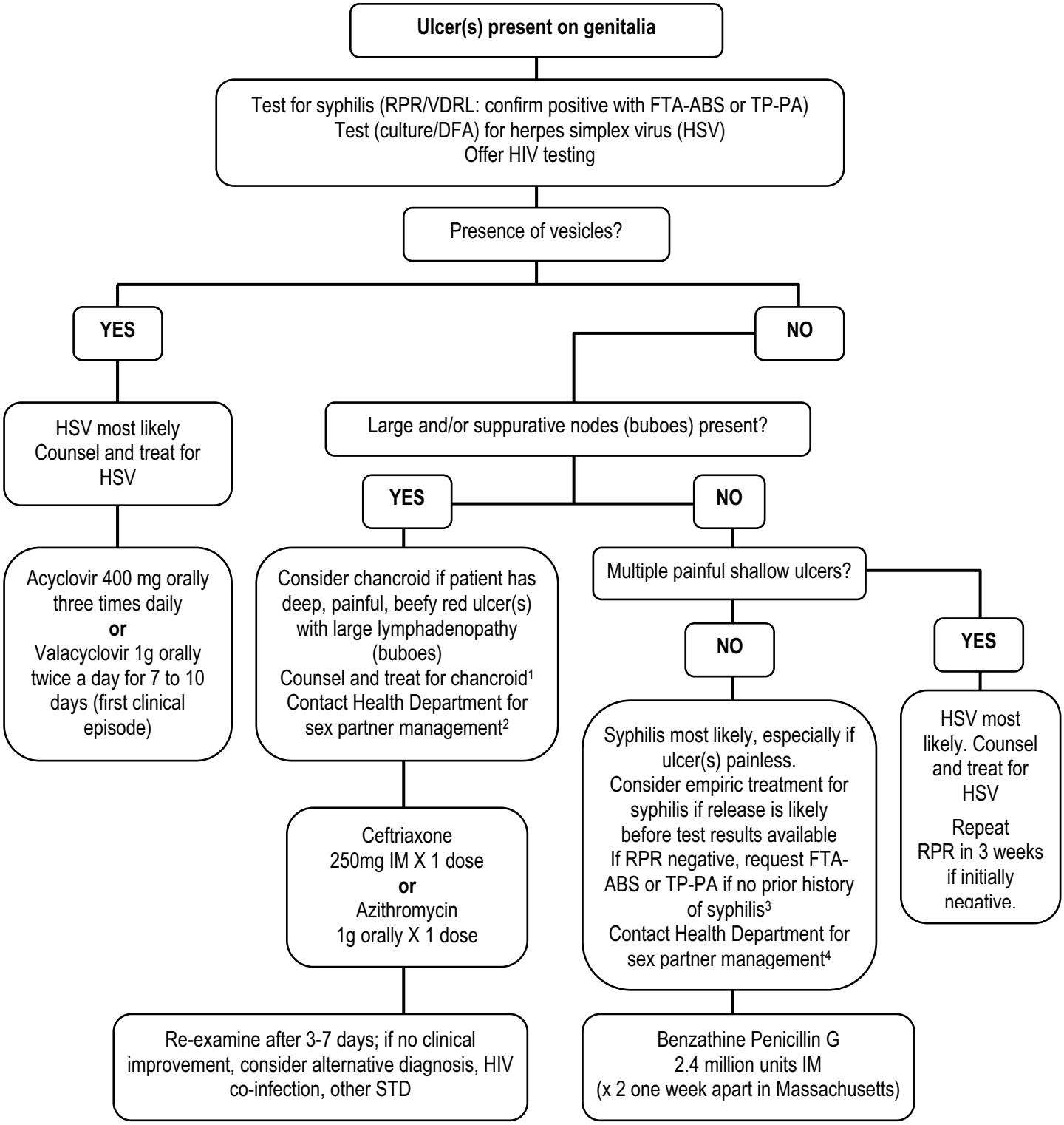
Guidelines for the Management of Recurrent or Persistent Urethritis

1. Re-examine and document objective evidence of urethritis (discharge, positive LET).
2. Reassess for gonorrhea and chlamydia
3. Given the low sensitivity of wet mount from urethral specimens, culture in selective medium (Diamonds or InPouch TV) or consider empiric treatment for *T. vaginalis*.
4. Treatment for recurrent or persistent urethritis: patients should be retreated with the initial regimen if they fail to comply or if they were exposed to an untreated sex partner. If patient has been compliant and not re-exposed consider the following treatment.

Metronidazole 2g orally single dose
PLUS
Erythromycin base 500mg orally four times a day for 7 days **OR** **EES 800mg** orally four times a day for 7 days

5. If symptoms and signs of urethritis persist following retreatment and where infection is unlikely, patient should be referred to urologist for further evaluation.

Genital Ulcer Disease (Male/Female) – Darkfield/Rapid RPR Unavailable



[1]Cases of lymphogranuloma venereum (LGV) have been occurring in men who have sex with men (MSM). Consider this diagnosis in MSM. Contact Health Department if suspected.

[2] All cases should be reported to the Health Department. Sex partners of patients with chancroid should be examined and treated if they had sexual contact with the patient during the 10 days preceding the patient's onset of symptoms.

[3] RPR can be negative in about 30% of cases of primary syphilis, especially if ulcer has been present for less than 7 days. Repeat RPR in 3 weeks if tests are negative.

[4]All syphilis cases or suspected cases should be reported to the Health Department. Sex partners of patients with primary syphilis should be presumptively treated if they had sexual contact during the 90 days preceding the patient's onset of symptoms.

Pelvic Inflammatory Disease

Known risk factors for PID include young age, multiple sex partners, prior history of PID or STD, current STD, douching.

Sexually active woman presenting with vaginal discharge, lower abdominal pain, or dyspareunia

Is there uterine tenderness, **OR**
adenexal tenderness, **OR**
cervical motion tenderness on pelvic exam?

YES

Perform pregnancy test
Perform wet mount of vaginal fluid[1]
Test for chlamydia and gonorrhea
Test for syphilis
Offer HIV testing

Empirically treat for PID if no other organic cause found or suspected (i.e., appendicitis, ectopic pregnancy)

Is the patient pregnant, has she failed a trial of oral antibiotics already, is she unable to tolerate oral therapy (i.e., nausea/vomiting), has signs of severe illness (i.e., high fever, peritoneal signs), is suspected to have a tubo-ovarian abscess?

YES to any of the above conditions

Parenteral Inpatient Treatment and further evaluation
Cefotetan 2g IV Q12 hours or
Cefoxitin 2g IV Q 6 hours, PLUS
Doxycycline 100mg PO/IV Q 12 hours
(other regimens available: Consult CDC STD Treatment Guidelines)

Hospitalize for 24-48 hours to ensure response to treatment; discharge on oral antibiotics for a complete 14 day course

NO

Outpatient treatment
Ceftriaxone 250mg IM single dose PLUS oral doxycycline 100mg orally twice a day for 14 days
With or without metronidazole 500g orally twice a day for 14 days[2]
OR
Ofloxacin 400mg orally twice a day or levofloxocin 500mg orally once a day for 14 days (consider potential for quinolone-resistant gonorrhea strains)
with or without metronidazole 500mg orally twice a day for 14 days[2]

Follow up in 48-72 hours to assess response to treatment Improvement?

NO

Hospitalize for parenteral therapy and further evaluation

YES

Continue treatment for 14 days

NO

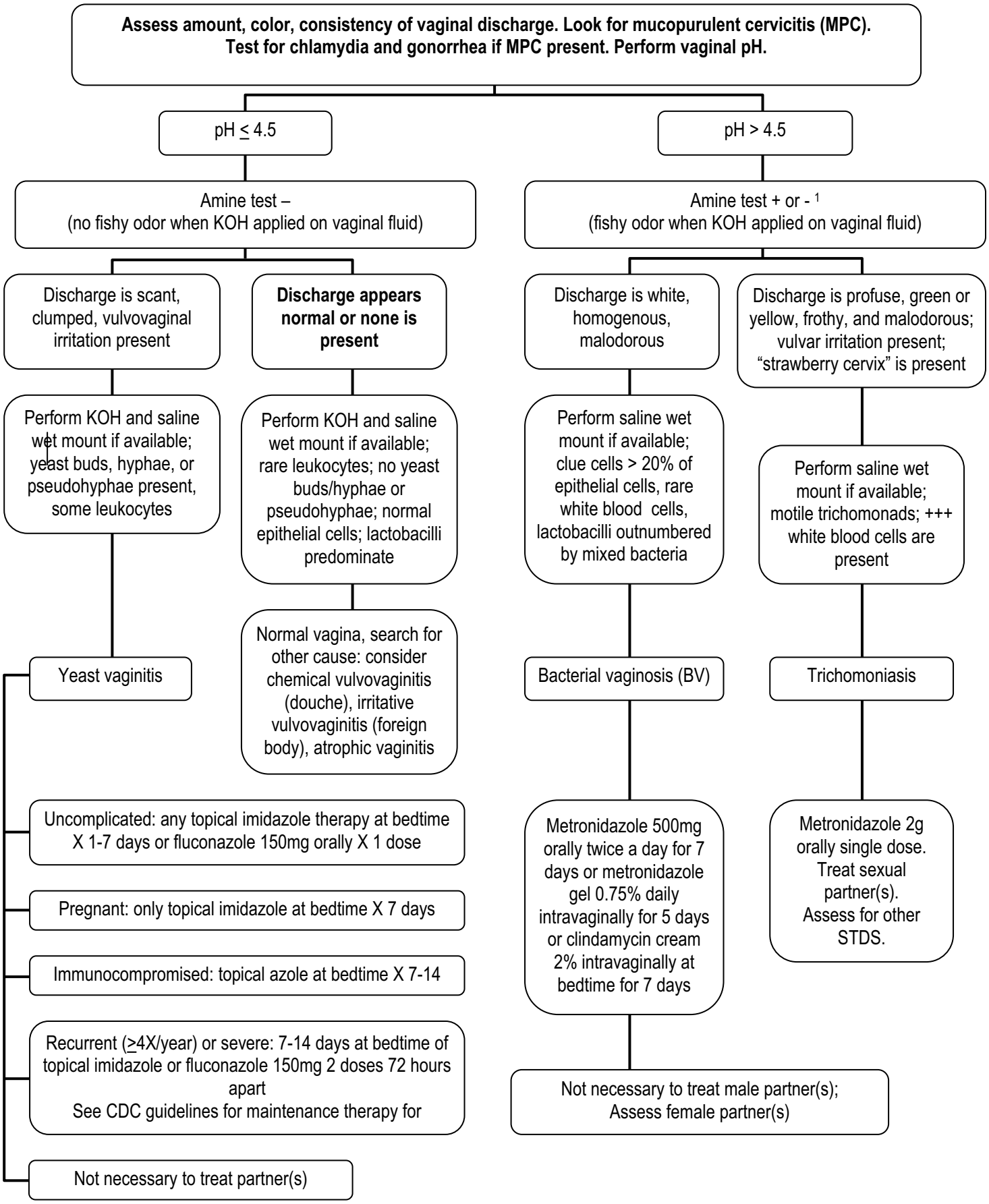
See vaginal complaint algorithm, Evaluate for other organic causes

[1]The presence of an increased number of white blood cells (WBC) or polymorphonuclear (PMNs) leukocytes supports a diagnosis of PID. Assess for the presence of bacterial vaginosis and *Trichomonas vaginalis*.

[2]Patients with bacterial vaginosis should be treated with metronidazole.

Treat partner(s) for gonorrhea and chlamydia. Retest all patients for chlamydia and gonorrhea 4 –6 weeks after treatment if documented infection with these pathogens.

Female with Complaints of Vaginal Discharge



[1] Amine test generally positive when BV is present (but could be negative). In addition to the pH >4.5, two additional criteria (homogeneous discharge, clue cells or positive amine test) required for BV diagnosis. Amine test sometimes positive when trichomonas is present.

Vaginitis Differentiation

	Normal	Trichomoniasis	Candidiasis	Bacterial Vaginosis
Symptom presentation		Itch, discharge, 50% asymptomatic	Itch, discomfort, dysuria, thick discharge	Odor, discharge, itch
Vaginal discharge	Clear to white	Frothy, gray or yellow- green; malodorous	Thick, clumpy, white "cottage cheese"	Homogenous, adherent, thin, milky white; malodorous "foul fishy"
Clinical findings		Cervical petechiae "strawberry cervix"	Inflammation and erythema	
Vaginal pH	3.8 - 4.2	> 4.5	Usually ≤ 4.5	> 4.5
KOH "whiff" test	Negative	Often positive	Negative	Positive
Saline wet mount	Lactobacilli	Motile flagellated protozoa, many WBCs	Few WBCs	Clue cells (≥ 20%), no/few WBCs
KOH wet mount			Pseudohyphae or spores if non-*albicans* species	

Source: CDC Division of STD Prevention. Self-study modules for clinicians. CDC STD division website

Section 3:
Hepatitis B Vaccination and Interpretation of Serology

In 2002, there was a reported incidence of acute HBV infection of 8064 in the United States. By 1997 estimates, 12 to 15 percent of the persons in the USA with chronic hepatitis B are released from corrections each year [15].

Most exposures to HBV in developed countries are from intravenous drug use, sexual activity, and occasionally, occupational exposure. In one-third of cases, the exposure is unknown. Transmission has been documented in cases of long-term household exposure; however HBV is not transmitted by the fecal-oral route or by breast-feeding. The primary reservoir is the chronically infected population who need not be symptomatic to transmit the virus (carriers). An estimated 2% of the jail and prison population has chronic hepatitis B. Likelihood of chronic infection is inversely related to age at time of infection and can lead to liver failure, cirrhosis, hepatic carcinoma, and death. Many injection drug users have been exposed to HBV and hepatitis C virus (HCV). Approximately 5% have dual infection.

The hepatitis B vaccine has been available since 1981, (see tables 1 and 2, and figures). In 1991, the Advisory Committee on Immunization Practices (ACIP) recommended a comprehensive strategy to eliminate HBV transmission in the U.S. This included the universal vaccination of infants, health care workers at risk of occupational exposure, individuals who have more than one sexual partner in six months, men who have sex with men, individuals who inject illicit drugs, and inmates of long-term correctional facilities. Currently individuals with chronic liver disease and HIV infection are also recommended for vaccination if they are not already immune or infected.

Testing for HBV and antibodies against HBV determines if an individual is susceptible to infection or infected. Usual tests for HBV include hepatitis B surface antigen (HBsAg), antibody to hepatitis B surface antigen (anti-HBs), antibody to hepatitis B core antigen (anti-HBc), and occasionally antibody to hepatitis B e antigen (anti-HBe). A negative panel indicates that HBV exposure has not occurred and the individual is susceptible to infection. If the surface antigen is positive, then the patient can be considered infected and further testing should be done to determine whether the infections is acute (anti-HBc IgM positive) or chronic, and the activity of the infection in the liver (liver function tests). Immunization is not necessary. If the core and surface antibodies are positive, then the individual was exposed to HBV, but cleared the infection. Anti-HBs confers immunity and the individual need not be vaccinated. An isolated positive surface antibody is indicative of immunity due to immunization. However, someone who has been vaccinated will not necessarily have an anti-HBs persisting beyond a few months.

If only the core antibody (anti-Hbc) is positive, then four interpretations are possible:

1. a recovering acute HBV infection ("window period": HbsAg gone, anti-HBs not yet measurable)
2. a resolved distant HBV with anti-HBs present but levels below detection (this is more likely to occur in the presence of hepatitis C or HIV, and thus commonly seen in corrections)

3. a susceptible with false positive anti-HBc (no actual prior HBV) (this is more likely the case in low risk populations such as blood donors [16])
   or
4. chronic HBV without detectable HBsAg (DNA may be present in serum or not) [17].

Vaccination is indicated only for interpretation #3. In the setting of injection drug use, other hepatitis B risk factors, hepatitis C or HIV, interpretation #3 becomes less likely, and vaccination is not needed. A cohort study of IDUs supports this approach [18]. It is not harmful to vaccinate, if in doubt.

Testing prior to vaccination (or prior to continuing to vaccines #2 and #3) is likely to be cost effective in programs with high prevalence or older patients, (see Box 5). Regardless, checking HBV serology is indicated for those with HIV, hepatitis C and other liver disease as part of routine care, as well as those with risk factors for hepatitis B, particularly in longer term settings. In addition, all pregnant women should be tested for HBsAg even if previously vaccinated or tested. Because of the high risk for HBV infection among incarcerated populations, testing should be performed even if the woman was tested before incarceration.

The HBV vaccine is not contraindicated during pregnancy.

Inmates should be vaccinated against hepatitis B since they at higher risk for exposure based on prior risk behaviors and high prevalence of co-infections with hepatitis C and HIV infection. Priority should be given to those with chronic liver disease and HIV. Optimally, all inmates should be vaccinated, if not already known to be immune
In terms of series completion, one dose of vaccine is better than no dose, two doses are better than one, and three doses are better than two. Vaccination should not be withheld solely on the basis of the possibility that three doses will not be achieved.

THE CDC 2003 RECOMMENDATIONS ARE AS FOLLOWS

Preexposure

- All adults who receive a medical evaluation in a correctional facility should be administered hepatitis B vaccine, unless they have proof of completion of the vaccine series or serologic evidence of immunity to infection. The vaccine series should be started for those who have never been vaccinated, irrespective of the length of their stay, and the series should be completed for those incompletely immunized (Strongly recommended).
  - For persons who did not receive medical evaluation upon entry into correctional custody, vaccination should be considered for those who lack proof of previous vaccination or immunity (Recommended).
  - Catch-up vaccination of already incarcerated, previously unvaccinated persons, or persons known to be susceptible to infection, should be considered in facilities in which routine hepatitis B vaccination of entering inmates is being established. Priority should be given to vaccination of contacts of known HBsAg-positive persons (e.g., cellmates or persons living in the same cell block or dormitory) (Recommended).

- An appropriate vaccination dose and schedule should be selected to facilitate completion of the vaccine series while the person is in custody. For previously unvaccinated persons held in a correctional facility for <6 months, the vaccine series should be initiated and completed by using a 4-month schedule (0, 1–2, and 4 months) (Table 4) (Recommended).
- Vaccination information, including date of administration, dose, and manufacturer should be included in the medical record, and an immunization record should be given to the incarcerated person upon release (Standard practice).
- Discharge planning should include transfer of immunization records to the person's medical home to ensure completion of the vaccine series for persons not fully vaccinated while in the correctional facility, and for all fully vaccinated persons as well (Standard practice).

Prevaccination and Postvaccination Testing

- Prevaccination serologic testing should be considered for adult incarcerated populations and is likely to be cost-effective when the prevalence of immunity from prior infection and vaccination exceeds 25%–30% (Box 5) (148). (Indicated).
  - To assist correctional facilities in determining whether to conduct prevaccination testing, periodic serologic surveys of incoming inmates can be used to determine the prevalence of markers of immunity to HBV infection (Standard practice).
  - Testing for anti-HBs provides the best measure of immunity to HBV infection, because it detects infection or vaccine-induced immunity (Standard practice).(Caveat: see isolated anti-HBc.)
  - When prevaccination testing is done, the first dose of vaccine should be administered at the same time the blood sample is obtained to ensure optimal vaccination coverage (Box 5) (9). (Recommended).
  - Postvaccination testing is not indicated for healthy adults (Not recommended).
  - For persons with special conditions (e.g., immunodeficiency, HIV infection, or chronic hemodialysis), or who are likely to be exposed to HBV (e.g., sex partner of HBsAg-positive person or health-care worker), postvaccination testing for anti-HBs is recommended 1 to 2 months after completion of the vaccination series. Nonresponders in this category should be revaccinated **(Strongly recommended)**. *(Comment: When doing postvaccination testing, surface antibody levels(anti-Hbs) should be checked one to three months after the series is completed to document immunity. Ninety percent of healthy adults will manifest protective serum antibody concentrations, however, individuals older than 30 years, active alcoholics, persons with HIV, and other chronic conditions have an increased risk of non-response. If antibody levels are not high enough, a fourth HBV booster is recommended, with repeat antibody levels drawn at four to twelve weeks later. If the antibody levels persistently stay low, the series should be repeated with the fourth shot being the first in the series. This is the practice in health care workers at risk for HBV exposure. There is suggestive data of response to intradermal vaccination in previous non-responders, and trials are currently underway).*

Postexposure Prophylaxis

- After any percutaneous (e.g., sharing injection-drug equipment or human bite) or mucosal (e.g., sexual) exposure to blood, an unvaccinated person should begin the vaccine series, and the exposure incident should be evaluated to determine if additional postexposure prophylaxis (i.e., HBIG) is required (Table 5) (9,47). Strongly recommended.

- The first dose of hepatitis B vaccine should be administered immediately, and the remaining doses 1 and 6 months later (Table 4) (standard practice).
- For an exposed person who has begun but not completed the vaccine series, subsequent vaccine doses should be administered as scheduled (standard practice).
- The person who was the source of the exposure should be tested for HBsAg, even if that person was previously vaccinated. If the source person is HBsAg-positive, HBIG (0.06 mL/kg body weight intramuscular) should be administered to the exposed person as soon as possible and ≤7 days after the exposure (standard practice).
- Postexposure prophylaxis is not necessary for a fully vaccinated person after exposure to HBV. Not recommended.

Serologic Testing for Hepatitis B Virus Infection

- Correctional facilities should consider routine testing of long-term inmates for chronic HBV infection, to facilitate rapid vaccination of contacts, direct counseling for preventing secondary transmission, and ensure medical evaluation of infected persons. If routine testing is not performed, testing should be considered for inmates in groups with risk factors for chronic HBV infection (e.g., injection-drug use, MSM or foreign-born persons from countries with high rate of infection) (Indicated).
- Residents of any facility with signs or symptoms indicative of viral hepatitis should have appropriate diagnostic testing to differentiate acute hepatitis A, hepatitis B, and hepatitis C and to determine if the patient has chronic HBV or HCV infection (Standard practice).
  - Cases of acute hepatitis B should be reported to the appropriate public health authority (Standard practice).
  - If an inmate is identified as having chronic HBV infection, the case should be reported in those states where reporting is required (Standard Practice).

IDENTIFICATION OF ACUTE HEPATITIS B SHOULD PROMPT AN EPIDEMIOLOGIC INVESTIGATION BY CORRECTIONAL OFFICIALS, IN COLLABORATION WITH THE APPROPRIATE HEALTH AUTHORITIES.

Chronic Hepatitis B Treatment

- Inmates identified as having chronic HBV infection during medical screening should be evaluated to determine the presence and extent of chronic liver disease and the potential benefit of antiviral therapy. Therapies for treatment of hepatitis B include interferon-alpha, lamivudine, adefovir and entecavir. Other agents are in clinical trials. Treatment of patients with chronic hepatitis B should be conducted in consultation with a specialist experienced with these treatment regimens (standard practice).
- All long-term correctional facilities should establish criteria for identifying prisoners who might benefit from treatment, on the basis of the latest treatment guidelines (standard practice).
- Discharge planning for persons with chronic HBV infection should include referral to medical care, risk-reduction programs, and social services necessary to maintain behavior changes; vaccination of contacts should also be arranged before patient discharge (standard practice).
  - identify the source of infection and provide appropriate postexposure prophylaxis (Table 5) to nonimmunized contacts at risk for infection (standard practice).
  - Persons diagnosed with acute hepatitis B should be observed for progressive liver dysfunction and evidence of acute liver failure (Standard practice).

Budget constraints may limit how many individuals can be vaccinated, but at minimum those who are at higher risk for further liver damage should be protected. The Federal Vaccines for Children Program (VFC) provides vaccines including hepatitis B to juveniles aged less than 19 years, but, for adults, cost is substantial barrier and must be born by state and local corrections or health departments. When funding has been allocated, high coverage rates have been achieved [19]. Experience in the juvenile system shows successful hepatitis B vaccination, that along with school based programs is now protecting young adults seen in corrections [20]. A number of model hepatitis B vaccination programs have been described [19, 21]. In Scotland, the universal vaccination of all prisoners, within two years of the initiative's implementation, had a dramatic impact on vaccination rates in injection drug users in the community [22]. Experience in Texas demonstrated on a large scale that broad completion of hepatitis B vaccination can be achieved. The importance of electronic information systems in the process, the greater vaccination rates achieved in prisons than jail settings, and the direct effect of allocation and withdrawal of funding all were demonstrated [23].

Standing orders for vaccination are nationally recommended to improve immunization rates. Draft standing orders are available on the internet at http://www.immunize.org/nslt.d/n29/n29.pdf.[1]

Key Points

- Hepatitis B vaccination is recommended for all those in correctional settings unless already known to be immune.
- Even a single dose may confer immunity, and if the series is interrupted, it can be resumed at any point, so administering even a single dose is worthwhile.
- The 0, 1-2, and 4 month schedule is recommended for adults expected to be incarcerated for less than 6 months.
- Many younger inmates have now likely been vaccinated prior to adolescence.
- Checking HBV serology is indicated for those with HIV infection, hepatitis C and other liver disease as part of routine care, as well as those with risk factors for hepatitis B, particularly in longer term settings.
- Checking serology prior to vaccination is not likely to be cost effective except in populations with high prevalence of immunity (typically >25-30%).
- In HIV infections and hemodialysis patients, and sex partners of persons with chronic hepatitis B, verify response to the HBV vaccine by checking anti-HBs 1-3 months after the series.
- Identification of acute hepatitis B should prompt an epidemiologic investigation by correctional officials, in collaboration with the appropriate health authorities

Hepatitis B lab nomenclature

HBsAg: *Hepatitis B surface antigen* is a marker of infectivity. Its presence indicates either acute or chronic HBV infection.

anti-HBs: Antibody to hepatitis B surface antigen is a marker of immunity. Its presence indicates an immune response to HBV infection, an immune response to vaccination, or the presence of passively acquired antibody. (Also known as HBsAb, but this abbreviation is best avoided since it could be confused with HBsAg.)

anti-HBc (total): Antibody to hepatitis B core antigen is a nonspecific marker of acute, chronic, or resolved HBV infection. It is not a marker of vaccine-induced immunity. It may be used in prevaccination testing to determine previous exposure to HBV infection. (Also known as HBcAb, but this abbreviation is best avoided since it may be confused with other abbreviations.)

IgM anti-HBc: IgM antibody subclass of anti-HBc. Positivity indicates recent infection with HBV (≤0.6 mos). Its presence indicates acute infection.

HBeAg: Hepatitis B "e" antigen is a marker of a high degree of HBV infectivity, and it correlates with a high level of HBV replication. It is primarily used to help determine the clinical management of patients with chronic HBV infection.

Anti-HBe: Antibody to hepatitis B "e" antigen may be present in an infected or immune person. In persons with chronic HBV infection, its presence suggests a low viral titer and a low degree of infectivity.

HBV-DNA: HBV Deoxyribonucleic acid is a marker of viral replication. It correlates well with infectivity. It is used to assess and monitor the treatment of patients with chronic HBV infection.

from CDC, www.cdc.gov , and Immunization Action Coalition, Needle Tips, www.Immunize.org

Table 1

Interpretation of some of the common hepatitis B panel results:

Interpretation of the hepatitis B panel		
Tests	**Results**	**Interpretation**
HBsAg **anti-HBc** **anti-HBs**	negative negative negative	susceptible
HBsAg **anti-HBc** **anti-HBs**	negative negative positive with ≥ 10mIU/mL*	immune due to vaccination
HBsAg **anti-HBc** **anti-HBs**	negative positive positive	immune due to natural infection
HBsAg **anti-HBc** **IgM anti-HBc** **anti-HBs**	positive positive positive negative	acutely infected
HBsAg **anti-HBc** **IgM anti-HBc** **anti-HBs**	positive positive negative negative	chronically infected
HBsAg **anti-HBc** **anti-HBs**	negative positive negative	four interpretations possible†

*** Postvaccination testing, when it is recommended, should be performed 1-2 months following the last dose of vaccine. Infants bom to HBsAg-positive mothers should be tested 3-9 months after the last dose.**

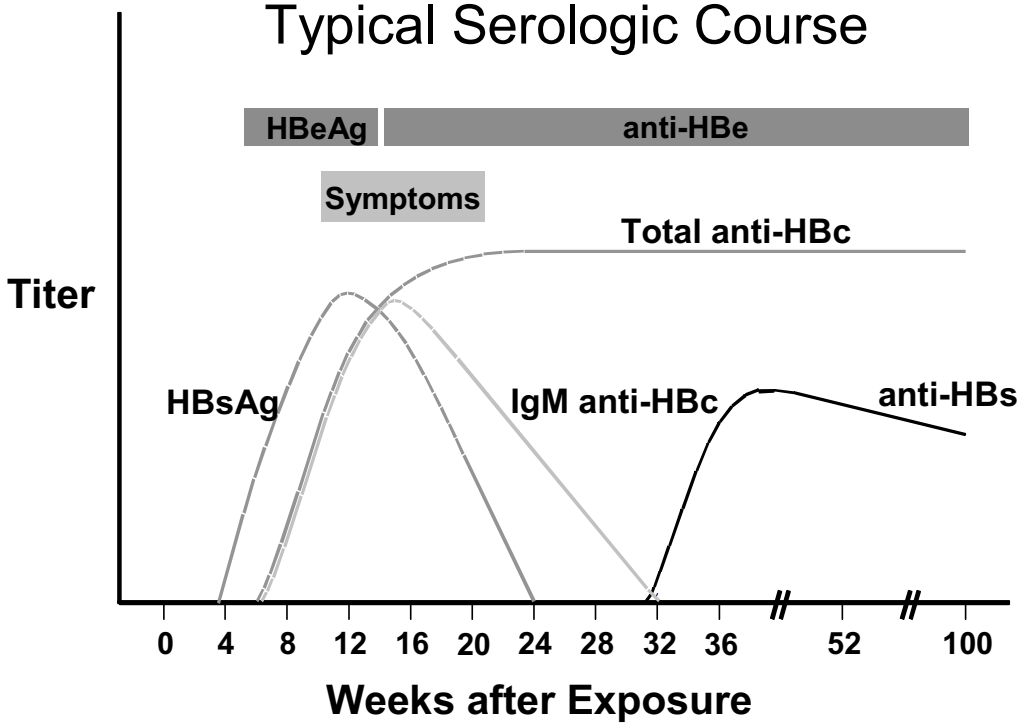
†1. May be recovering from acute HBV infection.

2. May be distantly immune, but the test may not be sensitive enough to detect a very low level of anti-HBs in serum.

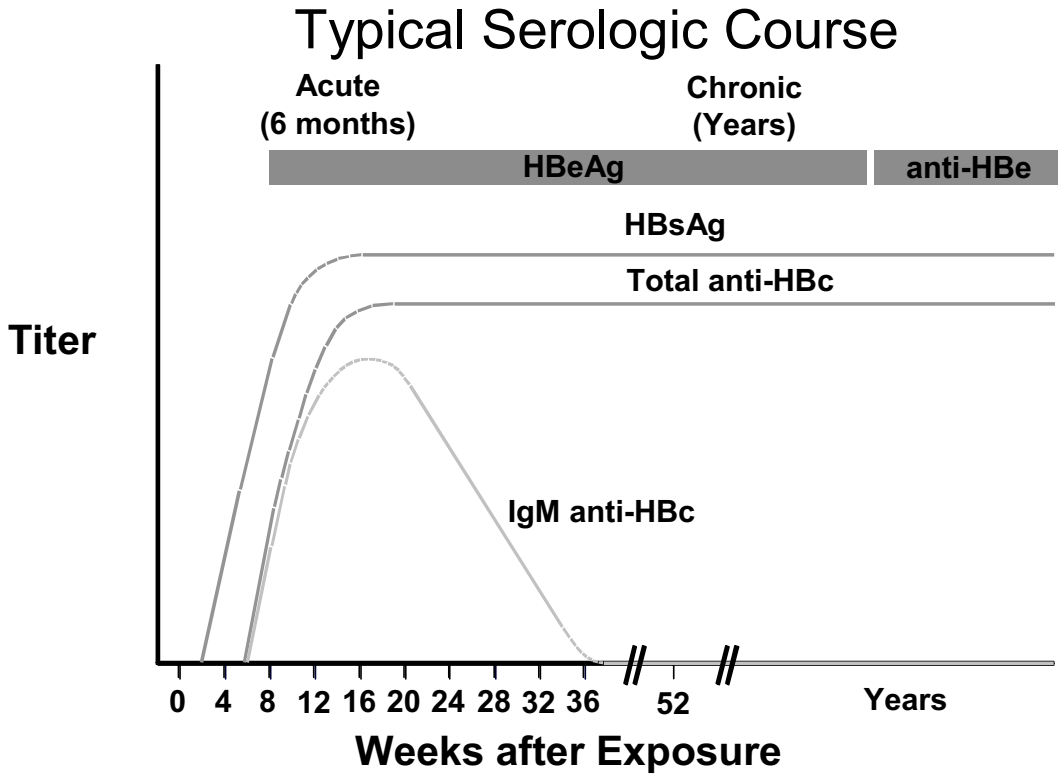
3. May be susceptible with a false positive anti-HBc.

4. May be chronically infected and have an undetectable level of HBsAg present in the serum.

Acute HBV Infection with Recovery



Progression to Chronic HBV Infection



From Weinbaum, MMWR R&R 2003

Table 2

Interpretation of hepatitis B virus serologic testing

	Serologic markers			
Interpretation	**HBsAg***	**Total anti-HBc†**	**IgM§anti-HBc**	**Anti-HBs¶**
Susceptible, never infected	—	—	—	—
Acute infection, early incubation period**	+	—	—	—
Acute infection	+	+	+	—
Acute resolving infection	—	+	+	—
Past infection, recovered and immune	—	+	—	+
Chronic infection	—	+	—	—
False positive (i.e., susceptible), past infection, or low·level chronic infection	—	+	—	—
Immune from vaccination if antibody contrentration ≥ 10 milli international units per milliliter (mIU/mL)	—	—	—	+

*** Hepatitis B surface antigen.**
† Antibody to hepatitis B core antigen.
§ Immunoglobulin M.
¶ Antibody to hepatitis B surface antigen
**** Transient HBsAg positivity (lasting ≤21 days) might be detected in certain patients during vaccination.**

Table 4

Recommended dosages of licensed hepatitis B vaccines

	Recombivax HB®*†		Engerix-B®*§		Twinrix®	
Age group (yrs)	**µg**	**mL**	**µg**	**mL**	**µg**	**mL**
Persons ≤19 (including infants born to HBsAg mothers)	**5**	**0.5**	**10**	**0.5**	—	—
Persons 11-15	**10**	**1.0****	—	—	—	—
Persons ≥20	**10**	**1.0**	**20**	**1.0**	**20††**	**1.0**
Dialysis patients and other immunocompromised persons	**40**	**1.0§§**	**40**	**2.0¶¶**	—	—

- **Both vaccines are routinely administered in a 3-dose series, which includes schedules of: 0, 1, and 6 months; 0, 2, and 4 months; 0, 2, and 6 months; and for adolescents, 0, 12, and 24 months.**

† **Manufactured by Merck & Co. Inc., Whitehouse Station, New Jersey.**

§ **Manufactured by GlaxoSmithKline Biologicals, Rixensart, Belgium.**

¶ **Manufactured by GlaxoSmithKline Biologicals, Rixensart, Belgium.**

** **Administered in a 2·dose schedule at 0 and 4-6 months.**

†† **Twinrix is only licensed for persons aged >17 years, :and contain both hepatitis A and hepatitis B vaccine antigens administered as a 3-dose schedule**

§§ **Special formulation.**

¶¶ **Two 1.0 mL doses administered at one site, in a 4-dose schedule at 0, 1, 2, and 6 months.**

Box 4

Groups recommended for preexposure hepatitis B vaccination

Universal

- All infants, and
- All children and adolescents not previously vaccinated.

On the Basis of Risk

- Inmates of long term correctiona1 facilities;
- Injection-drug users;
- Sexually active men who have sex with men;
- Men and women with > 1 partner in the previous 6 months, a history of a sexually transmitted disease (STD), or treatment in an STD clinic;
- Household contacts (including cellmates) and sex partners of persons with chronic HBV infection;
- Persons in occupational groups with exposure to blood or body fluids;
- Hemodialysis patients;
- Recipients of clotting factor concentrates;
- Long-term international travelers;
  and
- Clients and staff of institutions for the developmentally disabled.

Sources: CDC. Hepatitis B virus: a comprehensive strategy for eliminating transmission in the United States through universal childhood vaccination— recommendations of the Immunization Practices Advisory Committee. (ACIP). MMWR 1991:40(No. RR-13):1-25. CDC. General recommendations on immunization—recommendations of the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Family Physicians (AAFP). MMWR 2002:51 (No. RR-2):1--36. CDC. Recommendations for preventing transmissioin of infections among chronic hemodialysis patients. MMWR 2001:50(No. RR-5):1--43. CDC. Immunization of Health-care workers—recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control Practices Advisory Committee (HICPAC). MMWR 1997: 46(No. RR-18):1-42.

Box 5

Method to determine cost-effectiveness of prevacclnation screening for hepatitis B vaccination*

The breakeven point for thc cost of prevaccination serologic testing. when first vaccine dose is administered at the time of blood draw, is

$$T = Pl \times [P2 + P2(P3)] \times v$$

where

T = cost of serologic test (anti-HBc or anti-HBs);

P1 = ·prevalence of past infection/imunization;

P2 = percentage of recipients of first dose who actually receive a second dose;

P3 = percentage of recipients of doses 1 and 2 who receive dose 3;

[P2 + P2(P3)] = average number of doses for a person starting the series; and

v = cost per dose of vaccine, including administrative costs.

* Using this formula for hepatitis A vaccination assumes no vaccination is administered at the time of the blood draw. For hepatitis A vaccination, T = cost of serologic test for anti-hepatitis A virus (HAV); T = P1 x v. For more prevaccination information regarding hepatitis A. See full CDC document.

Table 5

Postexposure prophylaxis for exposure to hepatitis B virus in correctional settings

VACCINATION AND ANTIBODY RESPONSE STATUS OF EXPOSED PERSON*	TREATMENT WHEN SOURCE IS FOUND TO BE:		
	HBsAg† positive	HBsAg negatlve	HBsAg unknown or not available for testing§
Unvaccinated	HBIG¶ x 1, and initiate HB vaccine series**	Initiate HB vaccine series	Initiate HB vaccine series
Previously Vaccinated			
Known responder††	No treatment	No treatment	No treatment
Known nonresponder§§	HBIG x 2, or HBIG x 1, and initiate re-vaccination¶¶	No treatment	Treat as if source were HBsAg positive§
Antibody response unknown	Test exposed person for anti-HBs*** 1. If adequate, no treatment is necessary††† 2. If Inadequate, administer HBIG x 1 and vaccine booster	No treatment	Treat as if source were HBsAg positive§

Source: Adapted from CDC. Updated U.S. Public Health Service guidelines for the management of occupational exposures to HBV, HCV, and HIV and recommentations for postexposure prophylaxis. MMWR 2001;50 (No. RR-11):1-52.

* **Persons who have previously been infected with HBV are immune to reinfection and do not require post-exposure prophylaxis.**
† **Hepatitis B surface antigen.**
§ **Inmates should be considered persons at probable high risk.**
¶ **Hepatitis B immunoglobulin; dose is 0.06 mL/kg body weight intramuscularly.**
** **Hepatitis B vaccine**
†† **A responder is a person with adequate levels of serum antibody to HBsAg (i.e., anti-HBs ≥ 10 mIU/mL).**
§§ **A nonresponder is a person with inadequate response to vaccination (i.e., anti-HBs < 10 mIU/mL).**
¶¶ **The option of administering one dose of HBIG and reinitiating the vaccine series is preferred tor nonresponders who have not completed a second vaccine series. For persons who previously completed a second vaccine series but failed to respond, 2 doses of HBIG are preferred.**
*** **antibody to HBsAg.**
††† **For persons with ongoing exposure, such as health-care workers, recheck anti-HBs level in 1 month.**

Section 4:
Continuity of Care

Contrary to some public perceptions, the vast majority of people incarcerated return home, even from prisons. Most pass through jails (about 11 million nationally per year), and often are only briefly (from the system perspective) incarcerated. Given that treatment of most STDs requires follow-up visits, it is important that care be continued whether the patient is still incarcerated or not. Risk reduction, education, further evaluation of problems encountered as a result of appropriated STD evaluation, addressing other health care problems besides STDs also is frequently needed and requires care to continue after reentry into the community.

Several discrete program elements have been successful at promoting continuity of care:

1. Collaboration with the community and public health departments.
2. Case management.
3. Personally connect with health care worker before discharge.
4. Dually based health care workers who work with patients/clients both in the corrections program and the community. This not only covers element 2, but bridges programs, brings community perspective into the correctional institution, and vice versa
5. Schedule appointments for follow-up health care in the community. This basic step was found a leading predictor of follow-up and rated as very helpful by patients with chronic health conditions released from one jail. [24, 25]
6. Prepare a summary record of important health conditions, medications, allergies, and diagnostic studies, vaccinations, and other important treatments for each person released to be available to the community health provider at or prior to the time of first visit. Electronic health records can assist this process. Electronic transfer between compatible systems is an active goal. In Denver, a city-wide vaccination record includes the correctional-site vaccinations.[26]
7. Medical benefits at release. Given the critical nature of the first days and weeks post release, avoiding gaps in services is important, and having necessary benefits available promptly upon release is key, not just for medical care and medications of course, but for other requirements such as food, housing, and transportation.

Partner referral / partner counseling and referral services / partner notification for sexual contacts (usually in the community) is often indicated in order to locate and treat others with the same STD, as well as identify persons at-risk for other STDs, who can then be offered other testing, education and risk reduction counseling, and reduce the general burden of STDs in the community. Models of partner notification include:

1. **Patient (self) referral:** the patient informs the partner(s) and refers to services.
2. **Provider referral:** with consent, trained health department personnel (Disease Intervention Specialist) confidentially locate, notify partners and refer to services.
3. **Contract referral:** provider and patient decide on time frame during which the patient will contact and refer partner. If the patient is unable to complete this, then the provider has the permission and information necessary to follow-up with the partner(s).
4. **Dual referral:** the patient chooses to have both provider and self present when the partner is informed.

Evidence supports provider referral over patient (self) referral.[27] Partner services are often provided by the public health department, and taking advantage of their expertise and local knowledge is generally

recommended when available. Partner services and state regulations may differ between HIV, syphilis, and other STDs, from state to state.

Collaborations between Corrections and Public Health Departments

Collaborations between corrections, community and public health programs have been found increasingly important to take advantage of the incarceration episode, and decrease the burden of illness on those incarcerated and the greater public. However, there are marked variations in the structure of community and public care and correctional systems throughout the country. Some states have public health systems providing considerable direct patient care and services, whereas in other states the direct service role is much more limited. The health care for the poor in any population impacts health in corrections, and the outcomes after reentry to free society. Moreover, as has long been recognized in public health and well delineated in the current reentry initiatives, multiple other domains (such as housing, education, employment, family role) are key to health and wellness often taking precedence over health care as such. [28, 29]

Public health departments have the mandate to prevent illness in the general population- particularly environmental and communicable diseases. Public health departments should have the funds, staff, expertise, and other resources to help correctional facilities address the serious health needs of their inmates and thereby advance the cause of public health in their communities. [30, 31] The same can be said for public health's interactions with community based organizations (CBOs). Corrections and CBOs, in turn, need to collaborate as they are sharing the same patients (though traditionally at different times) and families, and each has needed expertise and experience.

Public health department and corrections collaborations can include:

- Educational programs
- Other prevention programs
- Testing/screening
- Case reporting
- Counseling
- Partner notification
- Outbreak investigation
- Treatment/prophylaxis
- Discharge planning
- Staff training

Coordination on testing and case reporting, with use of electronic lab reporting and STD data bases is particularly useful for improving program design and completion of treatment.

One national review of public health and corrections identified and recommended further implementation of four key facilitators of collaboration:

1. Public health agency collection and dissemination of data on the burden of infectious disease in inmate populations.
2. Include correctional representation in HIV (and STD) planning groups.
3. Public health agency funding for services and staff in correctional facilities.
4. Recognition of the importance and benefits or interventions in corrections to the health of the greater community.[30]

Appendix A

References and Resources

REFERENCES:

1. Centers for Disease Control and Prevention. Summary of Notifiable Diseases --- United States, 2002. MMWR Morb Mortal Wkly Rep 2004;51(53):1-84.
2. Kahn RH, Voigt RF, Swint E, Weinstock H. Early syphilis in the United States identified in corrections facilities, 1999-2002. Sex Transm Dis 2004;31(6):360-4.
3. Centers for Disease Control and Prevention. 2003 STD Surveillance Report: Persons Entering Corrections Facilities. 2004.
4. Mertz KJ, Voigt RA, Hutchins K, Levine WC. Findings from STD screening of adolescents and adults entering corrections facilities: implications for STD control strategies. Sex Transm Dis 2002;29(12):834-9.
5. APHA Task Force on Correctional Health Care Standards, editor. Standards for Health Services in Correctional Institutions. Washington, DC: American Public Health Association; 2003.
6. National Commission on Correctional Health Care. Standards for Health Services in Jails. Chicago: NCCHC; 2003.
7. National Commission on Correctional Health Care. Standards for Health Services in Prisons. Chicago: NCCHC; 2003.
8. National Commission on Correctional Health Care. Standards for Health Services in Juvenile Detention and Confinement Facilities. Chicago: NCCHC; 2004.
9. American Correctional Association. Performance-Based Standard for Adult Local Detention Facilities. Fourth ed. Lanham, MD: American Correctional Association; 2004.
10. Blank S, McDonnell DD, Rubin SR, Neal JJ, Brome MW, Masterson MB, et al. New approaches to syphilis control. Finding opportunities for syphilis treatment and congenital syphilis prevention in a women's correctional setting. Sex Transm Dis 1997;24(4):218-26.
11. Nguyen MS, Ratelle S, Tang Y, Whelan M, Etkind P, Lincoln T, et al. Prevalence and indicators of *Chlamydia trachomatis* infections among men entering Massachusetts correctional facilities: Policy Implications. Journal of Correctional Health Care 2004;10(4):543-554.
12. Kraut-Becher JR, Gift TL, Haddix AC, Irwin KL, Greifinger RB. cost-effectiveness of universal screening for chlamydia and gonorrhea in US jails. Journal of Urban Health 2004;81(3):453-71.
13. Johnson RE, Newhall WJ, Papp JR, Knapp JS, Black CM, Gift TL, et al. Screening tests to detect *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infections--2002. MMWR Recomm Rep 2002;51(RR-15):1-38; quiz CE1-4.
14. Ratelle S, Nguyen MS, Tang Y, Whelan M, Etkind P, Lincoln T, et al. low sensitivity of the leukocyte esterase test (LET) in detecting *Chlamydia trachomatis* infections in asymptomatic men entering a county jail. Journal of Correctional Health Care 2003;10(2).
15. National Commission on Correctional Health Care, National Institute of Justice. The Health Status of Soon-to-be-Released Inmates: A Report to Congress. Washington, DC: United States Department of Justice; 2002.
16. Schifman RB, Rivers SL, Sampliner RE, Krammes JE. Significance of isolated hepatitis B core antibody in blood donors. Arch Intern Med 1993;153(19):2261-6.
17. Minuk GY, Sun DF, Greenberg R, Zhang M, Hawkins K, Uhanova J, et al. Occult hepatitis B virus infection in a North American adult hemodialysis patient population. Hepatology 2004;40(5):1072-7.

18. Quaglio G, Lugoboni F, Vento S, Lechi A, Accordini A, Bossi C, et al. Isolated presence of antibody to hepatitis B core antigen in injection drug users: do they need to be vaccinated? Clin Infect Dis 2001;32(10):E143-4.
19. Weinbaum C, Lyerla R, Margolis HS. Prevention and control of infections with hepatitis viruses in correctional settings. Centers for Disease Control and Prevention. MMWR Recomm Rep 2003;52(RR-1):1-36.
20. Shostak G. Massachusetts Department of Youth Services program description listed by the Immunization Action Coalition. 2001.
21. Immunization Action Coalition. Model Programs for Hepatitis A, B, and C Prevention for Adults and Adolescents at Risk.
22. Hutchinson SJ, Wadd S, Taylor A, Bird SM, Mitchell A, Morrison DS, et al. Sudden rise in uptake of hepatitis B vaccination among injecting drug users associated with a universal vaccine programme in prisons. Vaccine 2004;23(2):210-4.
23. Hepatitis B vaccination of inmates in correctional facilities--Texas, 2000-2002. MMWR Morb Mortal Wkly Rep 2004;53(30):681-3.
24. Kennedy S, Lincoln T, Hammett TM, Roberts CA, Conklin TJ, Tuthill RW, et al. Effective linkage of jail inmates to community health care: Results from an evaluation of the public health model of correctional health care „ (Oral presentation). In: 131st Annual Meeting of the American Public Health Association; 2003 November 19, 2003; San Francisco, CA; 2003. p. Abstract 71982.
25. Hammett TM, Maruschak L, Harmon P. 1996–1997 Update: HIV/AIDS, STDs, and TB in Correctional Facilities. Washington, DC: National Institute of Justice, Bureau of Justice Statistics, and Centers for Disease Control and Prevention; 1999.
26. Sander L, Subiadur J, Lloyd L. overview of a successful, public health-funded, vaccination program within a jail-based STD clinic (Poster 048). In: 2004 STD Prevention Conference; 2004 March 10, 2004; Philadelphia, PA; 2004. p. A109.
27. Macke BA, Maher JE. Partner notification in the United States: an evidence-based review. Am J Prev Med 1999;17(3):230-42.
28. Travis J, Solomon AL, Waul M. From prison to home: The dimensions and consequences of prisoner re-entry. Washington, DC: The Urban Institute Justice Policy Center; 2001 June 2001.
29. Re-Entry Policy Council. Report of the Re-Entry Policy Council: Charting the Safe and Successful Return of Prisoners to the Community. New York: Re-Entry Policy Council; 2004 December 2004.
30. Hammett TM. Public health/corrections collaborations: Prevention and treatment of HIV/AIDS, STDs and TB. Washington, D.C.: U. S. Department of Justice, Office of Justice Programs, National Institute of Justice; 1998.
31. Klein SJ, O'Connell DA, Devore BS, Wright LN, Birkhead GS. Building an HIV continuum for inmates: New York State's criminal justice initiative. AIDS Educ Prev 2002;14(5 Suppl B):114-23.
32. Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines 2002. MMWR Recomm Rep 2002;51(RR-6):1-78.
33. Puisis M, editor. Clinical Practice in Correctional Medicine. St. Louis, Missouri: Mosby, Inc.; 1998.

Resources:

- Sexually Transmitted Diseases Treatment Guidelines 2002. From the Centers for Disease Control and Prevention. MMWR Recomm Rep 2002;51(RR-6):1-78. http://www.cdc.gov/std/treatment/default.htm
- The Practitioner's Handbook for the Management of Sexually Transmitted Disease. Published by the Seattle STD/HIV Prevention Training Center. Available on the internet at www.STDhandbook.org
- STD Clinic Practices Manual 2003-2004: Current Diagnosis & Therapy of Sexually Transmitted Diseases (Fifth Edition) by B.P. Stoner, March, 2003. http://std.wustl.edu/manual/STDManual03-04.pdf.
- Syphilis Algorithms, California STD/HIV PTC http://www.stdhivtraining.org/cfm/resources.cfm
- Prevention and Management of STD in Persons Living with HIV/AIDS produced by the Eastern Quadrant STD/HIV Prevention Training Centers, September, 2003. http://depts.washington.edu/nnptc/online_training/PrevMgmt-STDHIV_Sept03.pdf
- "Managing STIs in Jails" by K. Brown, Infectious Diseases in Corrections Report, 8(2), April 2005. http://www.IDCRonline.org.
- "Hepatitis B in Corrections" by B. Schwartzapfel, J. D. Rich, Infectious Diseases in Corrections Report, 8(2), November 2004. http://www.IDCRonline.org.
- "Overview of sexually transmitted diseases" by M. Puisis, W. C. Levine, K. J. Mertz. In: M. Puisis, ed. Clinical Practice in Correctional Medicine. St. Louis, Missouri: Mosby, 1998:127-33. Note: publication of second edition is expected soon.
- "Prevention and control of infections with hepatitis viruses in correctional settings" by C. Weinbaum, R. Lyerla, H. S. Margolis, Centers for Disease Control and Prevention. MMWR Recomm Rep 2003;52(RR-1):1-36; quiz CE1-4.
- Adapting your practice: treatment and recommendations for homeless patients with chlamydial or gonococcal infections. Nashville (TN): Health Care for the Homeless Clinicians' Network, National Health Care for the Homeless Council, Inc.; 2003. www.guideline.gov
- 1996–1997 Update: HIV/AIDS, STDs, and TB in Correctional Facilities by T. M. Hammett, L. Maruschak, P.Harmon. Washington, DC: National Institute of Justice, Bureau of Justice Statistics, and Centers for Disease Control and Prevention; 1999.
- "Assessment of sexually transmitted diseases services in city and county jails--United States, 1997." From the Centers for Disease Control and Prevention. MMWR 1998;47:429-31.
- Program Operations Guidelines for STD Prevention CDC STD Prevention www.cdc.gov/std/program/
- Division of Sexually Transmitted Diseases, National Center for HIV, STD and TB Prevention, CDC: www.cdc.gov/nchstp/dstd/disease_info.htm
- CDC National STD Hotline: (800) 227-8922 or (800) 342-2437. En Español (800) 344-7432
- American Social Health Association: www.ashastd.org
- National Network of STD/HIV Prevention Training Centers: www.stdhivpreventiontraining.org
- STD/HIV Prevention Training Center of New England: www.mass.gov/dph/cdc/stdtcmai/stdtcmai.htm

Appendix B

Web Site Links for Health Department STD Programs

Alabama
http://www.alapubhealth.org/

Alaska
http://www.hss.state.ak.us/

American Samoa
http://www.samoanet.com/asg/asglbj97.html

Arizona
http://www.hs.state.az.us/

Arkansas
http://health.state.ar.us/

California
http://www.dhs.ca.gov

Los Angeles
http://www.dhs.co.la.ca.us/

San Francisco
http://www.dph.sf.ca.us/

Colorado
http://www.cdphe.state.co.us/cdphehom.asp

Connecticut
http://www.state.ct.us/dph

Delaware
http://www.state.de.us/dhss/irm/dph/dphhome.htm

District of Columbia
http://www.dchealth.com/

Federated States of Micronesia
http://www.fsmgov.org/

Florida
http://www.doh.state.fl.us/

Georgia
http://health.state.ga.us/

Guam
http://www.admin.gov.gu/pubhealth/

Hawaii
http://www.state.hi.us/doh/

Idaho
http://www2.state.id.us/dhw/

Illinois
http://www.idph.state.il.us/

Chicago
http://www.cityofchicago.org/Health/

Indiana
http://www.state.in.us/isdh/programs/hivstd/index.htm

Iowa
http://www.idph.state.ia.us/

Kansas
http://www.kdhe.state.ks.us/

Kentucky
http://publichealth.state.ky.us/std.htm

Louisiana
http://www.dhh.state.la.us/OPH/index.htm

Maine
http://janus.state.me.us/dhs/welcome.htm

Maryland
http://www.co.mo.md.us/services/hhs/

Massachusetts
http://www.magnet.state.ma.us/dph/

Michigan
http://www.localhealth.net/

Minnesota
http://www.localhealth.net/

Mississippi
http://www.msdh.state.ms.us/

Missouri
http://www.health.state.ms.us

Montana
http://vhsp.dphhs.state.mt.us/dph_r3.htm

Nebraska
http://www.hhs.state.ne.us/

Nevada
http://www.state.nv.us/health/home.htm

New Hampshire
http://www.dhhs.state.nh.us/index.nsf?open

New Jersey
http://www.state.nj.us.health/cd/stdhome.htm

New Mexico
http://www.health.state.nm.us/website.nsf/frames?readform

New York State
http://www.health.state.ny.us/

New York City
http://www.ci.nyc.ny.us/html/doh/html/std/std.html

North Carolina
http://www.dhhs.state.nc.us/

North Dakota
http://www.health.state.nd.us/ndhd/default.asp

Northern Mariana Islands
http://www.saipan.com/gov/

Ohio
http://www.odh.state.oh.us/

Oklahoma
http://www.health.state.ok.us/

Oregon
http://www.ohd.hr.state.or.us/phl/welcome.htm

Pennsylvania
http://www.health.state.pa.us/

Philadelphia
http://www.phila.gov/health/units/ddc/std/index.html

Puerto Rico
http://www.puertorico.pr/gobiernopr/agencias_html/adm_salud.html

Rhode Island
http://www.health.state.ri.us/

South Carolina
http://www.state.sc.us/dhhs/

South Dakota
http://www.state.sd.us/doh/

Tennessee
http://www.state.tn.us/health/

Texas
http://www.tdh.state.tx.us/hivstd

Utah
http://www.health.state.ut.us/

Vermont
http://www.state.vt.us/health/

Virginia
http://www.vdh.state.va.us/std/index.htm

Virgin Islands
http://www.gov.vi/health/

Washington
http://doh.wa.gov/cfh/STD/default.htm

West Virginia
http://www.wvdhhr.org

Wisconsin
http://www.dhfs.state.wi.us/dph_bcd/STD/index.htm

Wyoming
http://wdhfs.state.wy.us/WDH/

Appendix C:
Patient Handouts

The following are a sampling of the patient information handouts created by the New York State Department of Health. The handouts are clear, use simple language, and are available in English and Spanish. In this module, we have provided those on chlamydia, gonorrhea, genital herpes, nongonococcal urethritis, and syphilis for you to peruse, copy, and distribute to your patients. These patient information handouts and others are available online at:
http://www.health.state.ny.us/nysdoh/communicable_diseases/en/

Chlamydia trachomatis (*Chlamydia trachomatis* genital infection)

What is chlamydia?
Chlamydia is a bacterial infection that is spread through sexual contact with an infected person. Chlamydia is one of the most common sexually transmitted diseases (STD); more than 50 million cases occur worldwide and approximately three million cases occur in the United States annually.

Who gets chlamydia?
Any sexually active person can be infected with chlamydia. Most often, chlamydia occurs in adolescents and young adults (ages 15-24) who have new or multiple sex partners and who do not consistently use condoms or other barrier contraception.

How is chlamydia spread?
Chlamydia is spread through sexual contact. This includes penis to vagina or penis to rectum contact. It can also be passed from the mother to her newborn during birth.

What are the symptoms of chlamydia?
Because approximately 75 percent of women and 50 percent of men have no symptoms, most people infected with chlamydia are not aware of their infections and may not seek health care. If males have symptoms, they may include urethritis (itching and/or burning on urination) and discharge from the penis in small or moderate amounts. If females have symptoms, they may include vaginal discharge and painful urination.

When and for how long is a person able to spread chlamydia?
From the time a person is infected with chlamydia, he or she can spread the disease. A person can continue to spread the infection until properly treated.

Does past infection with chlamydia make a person immune?
Past infection with chlamydia does not make a person immune to chlamydia.

What is the treatment for chlamydia?
Chlamydia is treated with antibiotics. The recommended antibiotic treatment is doxycycline taken twice a day for seven days or azrithromycin taken in one single dose. Other alternative medications may be used but are not as effective as azrithromycin and doxycycline. Persons being treated for chlamydia should not have sexual intercourse for seven days after single dose therapy (azrithromycin) or until completion of all seven days of antibiotics (doxycycline). Patients can be re-infected if their sex partners are not treated.

What happens if chlamydia goes untreated?
If a person is not treated for chlamydia, complications may occur. Women frequently develop pelvic inflammatory disease (PID). PID can cause infertility (not being able to get pregnant), chronic pelvic pain, tubal pregnancies and the continued spread of the disease. In men, untreated chlamydia can cause urethral infection and complications such as swollen and tender testicles. Chlamydia infection during pregnancy may result in premature rupture of membranes, preterm delivery and possible tubal pregnancy in a small percent of women. In addition, chlamydia can cause conjunctival (eye) and pneumonic (lung) infection in the newborn. Persons with a chlamydia infection have an increased chance of getting other infections such as gonorrhea or HIV.

What can be done to prevent the spread of chlamydia?
Limit your number of sex partners. Use a male or female condom. If you think you are infected or have been exposed, avoid any sexual contact and visit a local sexually transmitted disease (STD) clinic, a hospital or your doctor. Either bring your sex partners with you when you are treated or notify them immediately so they can obtain examination and treatment.
Revised: May 2004

Communicable Disease
New York State Department of Health

Gonorrhea Gonococcal Infection (clap, drip)

What is gonorrhea?
Gonorrhea is an infection that is spread through sexual contact with another person. The gonorrhea germs are found in the mucous areas of the body (the vagina, penis, throat and rectum).

Who gets gonorrhea?
Any sexually active person can be infected with gonorrhea. Most often, gonorrhea is found in younger people (ages 15-30) who have multiple sex partners. Gonorrhea is reported more frequently from urban areas than from rural areas.

How is gonorrhea spread?
Gonorrhea is spread through sexual contact. This includes penis to vagina, penis to mouth, penis to rectum and mouth to vagina contact. Gonorrhea can also be spread from mother to child during birth.

What are the symptoms of gonorrhea?
Men infected with gonorrhea will have burning while urinating and a yellowish white discharge from the penis. Those few women with symptoms will have a discharge from the vagina and possibly some burning while urinating. Infections in the throat and rectum cause few symptoms.

How soon do symptoms appear?
In males, symptoms usually appear two to seven days after infection but it can take as long as 30 days for symptoms to begin. Often, there are no symptoms for people infected with gonorrhea; 10 to 15 percent of men and about 80 percent of women may have no symptoms. People with no symptoms are at risk for developing complications to gonorrhea. These people also spread this infection unknowingly.

When and for how long is a person able to spread gonorrhea?
From the time a person is infected with gonorrhea, he or she can spread the disease. A person can continue to spread the infection until properly treated.

Does past infection with gonorrhea make a person immune?
Past infection does not make a person immune to gonorrhea. Previous infections with gonorrhea may allow complications to occur more rapidly.

What is the treatment for gonorrhea?
Gonorrhea is treated with cephalosporin or quinalone type of antibiotics. All strains of gonorrhea are curable but some strains are becoming more and more resistant to many standard medications.

What happens if gonorrhea goes untreated?
If a person is not treated for gonorrhea, there is a good chance complications will occur. Women frequently suffer from pelvic inflammatory disease (PID), a painful condition that occurs when the infection spreads throughout the reproductive organs. PID can lead to sterilization in females. Men may suffer from swelling of the testicles and penis. Both sexes may suffer from arthritis, skin problems and other organ infections caused by the spread of gonorrhea within the body.

What can be done to prevent the spread of gonorrhea?
Sexual relations should be approached responsibly.

- Limit the number of your sex partners.
- Use a male or female condom.
- If you think you are infected, avoid any sexual contact and visit a local sexually transmitted disease (STD) clinic, hospital or your doctor.
- Notify all sexual contacts immediately so that they can be examined and treated by a health care provider.

Revised: May 2004

Herpes II (genital herpes)

What is herpes II?
Herpes II is a sexually transmitted viral infection, which often produces painful sores, usually in the genital area. Once infected, an individual may carry the virus and be subject to recurrent bouts of infection. Some estimate that as many as 20 percent of the adult population in the United States has been exposed to the virus.

Who gets herpes II?
Any person who has intimate sexual contact with an infected person can contract the infection. In addition, herpes II can be spread from an infected mother to her child during birth.

How is herpes II spread?
The herpes II virus is spread during sexual contact with an infected person who is secreting the virus in fluids from lesions or mucous membranes.

What are the symptoms of herpes II?
Typically, the first signs of herpes II is a cluster of blister-like lesions in the genital area (head of penis, labia, anus, cervix) which spread and merge, break and crust over within four to 15 days. The fluid from these itching, painful sores is highly infectious. Other frequent symptoms are painful urination, urethral or vaginal discharge and swollen lymph nodes. The first exposure or primary episode consists of headache, fever, chills and muscular weakness. Recurrent episodes are less severe and are limited to the affected area.

How soon do symptoms appear?
Some studies have shown that from one-half to two-thirds of people infected with the virus will have no symptoms. But, if they appear, local symptoms may be seen from two to 12 days after exposure.

When and for how long is a person able to spread herpes II?
People are most likely to transmit the virus when the lesions are evident. There is evidence, however, that the virus may be shed even when no symptoms of a recurrent episode are present.

Does past infection with herpes II make a person immune?
No. After the initial infection, the herpes II virus becomes dormant within the body. Symptoms may recur with varying frequency and are often associated with stress factors.

What is the treatment for herpes II?
Acyclovir, valacyclovir and famciclovir have been shown to reduce the shedding of herpes II virus, diminish pain and speed the healing of primary herpes lesions. In the oral form, this treatment also appears to shorten the duration of both primary and recurrent episodes.

What can a person or community do to prevent the spread of herpes II?
Avoidance of sexual contact with symptomatic individuals is an immediate, but only partial, answer because herpes virus may be shed while the infected individual remains asymptomatic. Cesarean section is often recommended when primary or recurrent herpes II lesions occur in late pregnancy.

Sexual relations should be approached responsibly.

- Limit the number of your sex partners.
- Use a male or female condom.
- If you think you are infected, avoid any sexual contact and visit the local STD clinic, a hospital or your doctor.

Revised: May 2004

Nongonococcal Urethritis (NGU, NSU)

What is nongonococcal urethritis (NGU)?
NGU refers to an infection of the urethra (the tube running from the bladder through the penis in men or the labia in women through which urine passes) caused by some agent other than gonorrhea. This infection can be caused by any of several different organisms, although the most frequent cause of NGU is a germ called chlamydia, and is a sexually transmitted disease (STD).

Who gets NGU?
NGU is most often found in men since the organisms causing this infection are sexually transmitted and the female urethra is seldom infected during intercourse. Men between the ages of 15 and 30 having multiple sex partners are most at risk for this infection.

How is NGU spread?
NGU is spread almost exclusively through sexual contact involving penis to vagina or penis to rectum contact.

What are the symptoms of NGU?
The symptoms of NGU involve a slight burning or tingling during urination that is sometimes accompanied by a slight (usually clear) discharge (drip) from the urethra.

How soon do symptoms appear?
The symptoms associated with NGU usually appear from one to five weeks after infection. Some people never develop obvious symptoms throughout their infection.

When and for how long is a person able to spread NGU?
A person can spread NGU from the time they are infected until they are cured.

Does past infection with NGU make a person immune?
No. Past infection with NGU does not protect a person from contracting the disease again.
What is the treatment for NGU?
NGU is treated through the use of antibiotics such as tetracycline.

What can be the effect of not being treated for NGU?
If not treated for NGU, a person may experience swelling of the testicles (epididymitis) and infection of the prostate gland. More importantly, they may infect sexual partners.

What can be done to prevent the spread of NGU?
There are a number of ways to prevent the spread of NGU:

- Limit your number of sex partners.
- Use a condom.
- Carefully wash genitals after sexual relations.
- If you think you are infected, avoid any sexual contact and visit your local STD clinic, a hospital or your doctor.
- Notify all sexual contacts immediately so they can obtain examination and treatment.

Revised: May 2004

Syphilis

What is syphilis?
Syphilis is a bacterial infection, primarily a sexually transmitted disease (STD).

Who gets syphilis?
Any sexually active person can be infected with syphilis, although there is a greater incidence among young people between the ages of 15 and 30 years. It is more prevalent in urban than rural areas.

How is syphilis spread?
Syphilis is spread by sexual contact with an infected individual, with the exception of congenital syphilis, which is spread from mother to fetus. Transmission by sexual contact requires exposure to moist lesions of skin or mucous membranes.

What are the symptoms of syphilis?
The symptoms of syphilis occur in stages called primary, secondary and late. The first or primary sign of syphilis is usually a sore(s), which is painless and appears at the site of initial contact. It may be accompanied by swollen glands, which develop within a week after the appearance of the initial sore. The sore may last from one to five weeks and may disappear by itself even if no treatment is received. Approximately six weeks after the sore first appears, a person will enter the second stage of the disease. The most common symptom during this stage is a rash, which may appear on any part of the body including trunk, arms, legs, palms, soles, etc. Other symptoms may occur such as tiredness, fever, sore throat, headaches, hoarseness, loss of appetite, patchy hair loss and swollen glands. These signs and symptoms will last two to six weeks and generally disappear in the absence of adequate treatment. The third stage, called late syphilis (syphilis of over four years' duration), may involve illness in the skin, bones, central nervous system and heart.

How soon do symptoms appear?
Symptoms can appear from 10 to 90 days after a person becomes infected, but usually within three to four weeks. Symptoms are often not noticed or are thought to be minor abrasions or heat rash and medical care is not sought.

When and for how long is a person able to spread syphilis?
Syphilis is considered to be communicable for a period of up to two years, possibly longer. The extent of communicability depends on the existence of infectious lesions (sores), which may or may not be visible.
Does past infection with syphilis make a person immune?
There is no natural immunity to syphilis and past infection offers no protection to the patient.

What is the treatment for syphilis?
Syphilis is treated with penicillin or tetracycline. The amount of treatment depends on the stage of syphilis the patient is in. Pregnant women with a history of allergic reaction to penicillin should undergo penicillin desensitization followed by appropriate penicillin therapy. A baby born with the disease needs daily penicillin treatment for 10 days.

What are the complications associated with syphilis?
Untreated syphilis can lead to destruction of soft tissue and bone, heart failure, blindness and a variety of other conditions which may be mild to incapacitating. More important, a female with untreated syphilis may transmit the disease to her unborn child, which may result in death or deformity of the child. Physicians and hospitals are required to test pregnant females for syphilis at prenatal visits. Tests of newborns or their mothers are required at the time of delivery.

What can be done to prevent the spread of syphilis?
There are number of ways to prevent the spread of syphilis:

- Limit your number of sex partners.
- Use a male or female condom*.
- If you think you are infected, avoid sexual contact and visit your local STD clinic, a hospital or your doctor.
- Notify all sexual contacts immediately so they can obtain examination and treatment.
- All pregnant women should receive at least one prenatal blood test for syphilis.

* Remember that use of condoms may prevent the disease if the initial contact sore is on the penis or in the vaginal area. However, transmission can occur if the sore is outside the areas covered by the condom.

Revised: May 2004

Clamidia (infección genital por clamidia trachomatis)

¿Qué es la clamidia?
La clamidia es una infección bacteriana que se contagia a través del contacto sexual con una persona infectada. La clamidia es una de las enfermedades de transmisión sexual (ETS) más comunes; más de 50 millones de casos ocurren en el mundo y aproximadamente 3 millones de casos ocurren en los Estados Unidos anualmente.

¿Quiénes contraen la clamidia?
Cualquier persona sexualmente activa puede infectarse con clamidia. La clamidia se presenta con mayor frecuencia en los adolescentes y adultos jóvenes (de 15-24 añños) que tengan compañeros sexuales nuevos o múltiples y que no siempre utilizan condones u otros métodos anticonceptivos de barrera.

¿Cómo se disemina la clamidia?
La clamidia se transmite a través del contacto sexual. Esto incluye el contacto del pene con la vagina o del pene con el recto. También se puede contagiar de la madre al recién nacido durante el parto.

¿Cuááles son los síntomas de la clamidia?
Debido a que aproximadamente el 75% de las mujeres y el 50% de los hombres no presentan síntomas, la mayoría de las personas infectadas con clamidia no saben que tienen la infección y pueden no buscar atención médica. Si los hombres presentan síntomas, estos pueden incluir uretritis (prurito y/o ardor al orinar) y secreción por el pene en cantidades pequeñas o moderadas. Si las mujeres presentan síntomas, estos pueden incluir flujo vaginal y dolor al orinar.

¿Cuándo y durante cuánto tiempo puede una persona transmitir la clamidia?
A partir del momento en que la persona se infecta con clamidia, puede transmitir la enfermedad. Una persona puede continuar transmitiendo la enfermedad hasta que reciba tratamiento adecuado.

¿Una infección previa por clamidia hace que la persona sea inmune?
Una infección previa por clamidia no confiere inmunidad contra la clamidia.

¿Cuál es el tratamiento para la clamidia?
La clamidia se trata con antibióticos. El tratamiento antibiótico recomendado es la doxiciclina, dos dosis diarias durante siete días o la azitromicina en una única dosis. Se pueden utilizar otros medicamentos alternativos, pero no son tan eficaces como la azitromicina y la doxiciclina. Las personas en tratamiento para la clamidia no deben tener relaciones sexuales durante siete días después de una terapia de dosis única (azitromicina) o hasta haber completado los siete días de antibióticos (doxiciclina). Los pacientes pueden ser infectados nuevamente si sus compañeros sexuales no reciben tratamiento.

¿Qué sucede si no se trata la clamidia?
Si una persona no recibe tratamiento para la clamidia, se pueden presentar complicaciones. Con frecuencia, las mujeres desarrollan una enfermedad pélvica inflamatoria (EPI). La EPI puede producir esterilidad (imposibilidad para quedar embarazada), dolor pélvico crónico, embarazos en las trompas (extrauterinos) y el contagio continuo de la enfermedad. En los hombres, la clamidia sin tratar puede causar infecciones uretrales y complicaciones, tales como hinchazón y dolor en los testículos. La infección por clamidia durante el embarazo puede producir ruptura prematura de membranas, parto prematuro y posibles embarazos en las trompas (extrauterinos) en un pequeño porcentaje de las mujeres. Además, la clamidia puede producir infecciones conjuntivales (del ojo) y neumónicas (de pulmones) en los recién nacidos. Las personas con infección por clamidia tienen mayores posibilidades de contraer otras infecciones, tales como la gonorrea o el VIH.

¿Qué se puede hacer para prevenir la diseminación de la clamidia?

- Limite la cantidad de compañeros sexuales.
- Utilice condón masculino o femenino.
- Si usted piensa que puede estar infectado o haber estado expuesto, evite todo contacto sexual y acuda a una clíínica de enfermedades sexuales transmisibles (EST), a un hospital o visite a su médico. Lleve a sus compañeros sexuales con usted cuando reciba tratamiento o notifíqueles inmediatamente para que puedan ser examinados y tratados.

Revised: Junio 2004

Gonorrea (infección gonocócica)

¿Qué es la gonorrea?
La gonorrea es una infección que se contagia a través del contacto sexual con otra persona. Los gérmenes de la gonorrea se encuentran en las mucosas del cuerpo (la vagina, el pene, la garganta y el recto).

¿Quiénes contraen la gonorrea?
Cualquier persona sexualmente activa puede infectarse con gonorrea. La gonorrea se encuentra con mayor frecuencia en personas jóvenes (de 15-30 años) que tengan compañeros sexuales múltiples. Se reporta un número mayor de casos en las áreas urbanas que en las rurales.

¿Cómo se contagia la gonorrea?
La gonorrea se contagia a través del contacto sexual. Este incluye el contacto del pene con la vagina, del pene con la boca, del pene con el recto y de la boca con la vagina. La gonorrea también puede ser contagiada de la madre al hijo durante el parto.

¿Cuáles son los síntomas de la gonorrea?
Los hombres infectados con gonorrea presentan sensación de ardor al orinar y una secreción blanca amarillenta por el pene. Las pocas mujeres con síntomas presentan flujo vaginal y posiblemente, ardor al orinar. Las infecciones de la garganta y el recto producen pocos síntomas.

¿Qué tan pronto aparecen los síntomas?
En los hombres, los síntomas aparecen generalmente entre dos y siete días después de la infección. Sin embargo, el inicio de los síntomas puede demorarse hasta 30 días. Con frecuencia, las personas infectadas con gonorrea no tienen síntomas; entre el 10 y el 15 por ciento de los hombres y alrededor del 80 por ciento de las mujeres pueden no tener síntomas. Las personas sin síntomas tienen el riesgo de desarrollar complicaciones asociadas a la gonorrea. Estas personas también contagian la infección sin saberlo.

¿Cuándo y durante cuánto tiempo puede una persona transmitir la gonorrea?
A partir del momento en que la persona es infectada con gonorrea puede contagiar la enfermedad. Una persona puede continuar contagiando la enfermedad hasta que reciba el tratamiento adecuado.

¿Una infección previa por gonorrea hace que la persona sea inmune?
Una infección previa por gonorrea no hace que la persona quede inmune a la enfermedad. Las infecciones previas por gonorrea pueden hacer que se presenten complicaciones con mayor rapidez.

¿Cuál es el tratamiento para la gonorrea?
La gonorrea se trata con cefalosporina o antibióticos del tipo quinolona. Todas las cepas de la gonorrea son curables. Sin embargo, algunas cepas se están volviendo cada vez más resistentes a muchos medicamentos de uso común.

¿Qué sucede si no se trata la gonorrea?
Si una persona no recibe tratamiento para la gonorrea, es muy probable que ocurran complicaciones. Con frecuencia, las mujeres sufren enfermedad pélvica inflamatoria (EPI), una enfermedad dolorosa que ocurre cuando la infección se extiende a los órganos reproductores. La EPI puede producir esterilidad en las mujeres. Los hombres pueden presentar inflamación de los testículos y el pene. Ambos sexos pueden presentar artritis, problemas de piel y otras infecciones de órganos ocasionadas por la extensión de la gonorrea dentro del cuerpo.

¿Qué se puede hacer para prevenir la diseminación de la gonorrea?
Se deben tener relaciones sexuales de manera responsable.

- Limite la cantidad de compañeros sexuales.
- Utilice un condón masculino o femenino.
- Si usted piensa que puede estar infectado(a) o haber estado expuesto(a), evite todo contacto sexual y acuda a una clínica de enfermedades de transmisión sexual (ETS), a un hospital o visite a su médico.
- Notifique a todos sus contactos sexuales de inmediato para que puedan ser examinados y tratados por un médico.

Revised: Junio 2004

Herpes II (herpes genital)

¿Qué es el herpes II?
El herpes II es una infección viral de transmisión sexual que con frecuencia produce heridas dolorosas, generalmente en el área genital. Una vez infectada, una persona puede ser portadora del virus y estar sujeta a brotes recurrentes de la infección. Algunas personas calculan que una cifra alta, aproximadamente del 20% de la población adulta en los Estados Unidos ha estado expuesta al virus.

¿Quiénes contraen el herpes II?
Cualquier persona que tenga contacto sexual íntimo con una persona infectada puede contraer la infección. Además, el herpes II puede contagiarse de una madre infectada a su bebé durante el parto.

¿Cómo se contagia el herpes II?
El virus del herpes II se contagia durante el contacto sexual con una persona infectada que segrega el virus en las secreciones de lesiones o membranas mucosas.

¿Cuáles son los síntomas del herpes II?
Típicamente, la primera señal del herpes II es un grupo de lesiones ampollosas en el área genital (cabeza del pene, labios vaginales, ano, cervix), las cuales se diseminan, convergen, se rompen y forman una costra en un lapso de cuatro a 15 días. La secreción de estas lesiones dolorosas y pruriginosas es altamente infecciosa. Otros síntomas frecuentes son dolor al orinar, secreción uretral o vaginal y ganglios linfáticos inflamados. La primera exposición o episodio primario consiste en dolor de cabeza, fiebre, escalofríos y debilidad muscular. Los episodios recurrentes son menos graves y se limitan al área afectada.

¿Qué tan pronto aparecen los síntomas?
Algunos estudios indican que entre la mitad y las dos terceras partes de las personas infectadas con el virus no tendrá síntomas. Sin embargo, si los tienen, los síntomas locales aparecen entre dos y 12 días después de la exposición.

¿Cuándo y durante cuánto tiempo puede una persona contagiar el herpes II?
Es más probable que las personas transmitan el virus cuando las lesiones son evidentes. Sin embargo, existe evidencia de que el virus puede ser eliminado aunque no haya síntomas de episodio recurrente presentes.

¿Una infección previa por herpes II hace que la persona sea inmune?
No. Después de la infección inicial, el virus del herpes II permanece latente en el cuerpo. Los síntomas podrán repetirse con una frecuencia variable y se suelen asociar a factores de estrés.

¿Cuál es el tratamiento para el herpes II?
El Acyclovir, el Valacyclovir y el Famciclovir han demostrado reducir la propagación del virus del herpes II, disminuir el dolor y acelerar la cicatrización de las lesiones primarias del herpes. En forma oral, este tratamiento también parece acortar la duración tanto de los episodios primarios como de las recurrencias.

¿Qué puede hacer una persona o una comunidad para prevenir la diseminación del herpes II?
Evitar el contacto sexual con personas sintomáticas es la respuesta inmediata, aunque parcial, ya que una persona infectada asintomática puede propagar el virus del herpes. Con frecuencia, se recomienda la cesárea cuando ocurren lesiones primarias o recurrentes del herpes II en embarazos en estado avanzado. Se deben tener relaciones sexuales de manera responsable.

- Limite la cantidad de compañeros sexuales.
- Utilice un condón masculino o femenino.
- Si usted piensa que puede estar infectado(a), evite el contacto sexual y acuda a la clínica local de ETS, a un hospital o visite a su médico.

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Sífilis

¿Qué es la sífilis?
La sífilis es una infección bacteriana, fundamentalmente una enfermedad de transmisión sexual (ETS).

¿Quiénes contraen la sífilis?
Cualquier persona sexualmente activa puede resultar infectada por la sífilis, pese a que existe una mayor incidencia entre jóvenes de 15 a 30 años. La enfermedad es más común en áreas urbanas que rurales.

¿Cómo se contagia la sífilis?
La sífilis se contagia por contacto sexual con una persona infectada, salvo la sífilis congénita, contagiada de la madre al feto. La transmisión por contacto sexual exige la exposición a lesiones húmedas en la piel o las membranas mucosas.

¿Cuáles son los síntomas de la sífilis?
Los síntomas de la sífilis ocurren en etapas llamadas primaria, secundaria y tardía. El primero de los síntomas primarios de la sífilis suele ser una o más llagas, indoloras que aparecen en el sitio del contacto inicial. Este síntoma puede estar acompañado de inflamación de los ganglios, que se produce una semana después de la aparición de la primera llaga. La llaga puede permanecer entre una y cinco semanas y puede desaparecer sola si no se recibe tratamiento. Aproximadamente seis semanas después de la aparición de la primera llaga, la persona pasará a la segunda etapa de la enfermedad. Durante esta etapa, el síntoma más común es un brote que puede aparecer en cualquier parte del cuerpo, incluyendo el tronco, los brazos, las piernas, las palmas de las manos, las plantas de los pies, etc. También pueden presentarse otros síntomas como cansancio, dolor de garganta, dolores de cabeza, ronquera, pérdida del apetito, pérdida parcial del cabello e inflamación de ganglios. Estos síntomas duran entre dos y seis semanas y generalmente, desaparecen aunque no se administre el tratamiento adecuado. La tercera etapa, llamada sífilis tardía (sífilis de más de cuatro años de duración), puede causar enfermedades cutáneas, óseas, cardiacas y del sistema nervioso central.

¿Qué tan pronto aparecen los síntomas?
Los síntomas pueden aparecer entre 10 y 90 días después de que la persona fue infectada. Sin embargo, generalmente aparecen entre tres y cuatro semanas después. Los síntomas suelen pasar inadvertidos o se puede pensar que se trate de erosiones menores o exantema por calor y por lo tanto, no se busca asistencia médica.

¿Cuándo y durante cuánto tiempo puede una persona contagiar la sífilis?
Se cree que la sífilis puede contagiarse durante un período de hasta dos años o posiblemente más. La extensión del contagio depende de la existencia de lesiones infecciosas (llagas), las que pueden o no ser visibles.

¿Una infección previa por sífilis hace que la persona sea inmune?
No existe inmunidad natural contra la sífilis, por lo tanto, una infección anterior por sífilis no protege al paciente.

¿Cuál es el tratamiento contra la sífilis?
La sífilis debe ser tratada con penicilina o tetraciclina. La intensidad del tratamiento depende de la etapa de la sífilis en que se encuentre el paciente. Las mujeres embarazadas con historia de reacción alérgica a la penicilina deben someterse a una desensibilización a la penicilina, seguida por un tratamiento adecuado con penicilina. Los bebés que nazcan con esta enfermedad deberán recibir tratamiento diario con penicilina durante diez días.

¿Cuáles son las complicaciones asociadas a la sífilis?
La sífilis no tratada puede destruir tejidos blandos y huesos, provocar insuficiencia cardiaca, ceguera y una

seria de otras de enfermedades leves o discapacitantes. Más importante aún, la mujer que no reciba tratamiento contra esta enfermedad puede transmitirla al feto, lo que puede significar la muerte o la presencia de malformaciones en el pequeño. Los médicos y los centros hospitalarios están obligados a realizar exámenes en las mujeres embarazadas para la detección de la sífilis durante las consultas prenatales. En el momento del parto se deben realizar exámenes al recién nacido o a su madre.

¿Qué se puede hacer para prevenir el contagio de la sífilis?

Existen varias formas de evitar el contagio de la sífilis:

- Limite la cantidad de compañeros sexuales;
- Utilice un condón masculino o femenino**;
- Si usted piensa que puede estar infectado(a), evite el contacto sexual y acuda a la clínica local de ETS, a un hospital o consulte a su médico;
- Notifique a todos sus contactos sexuales de inmediato para que puedan realizarse un examen y recibir tratamiento;
- Todas las mujeres embarazadas deben ser sometidas al menos a un examen de sangre prenatal que permita determinar la presencia de sífilis.

** Recuerde que el uso de condones puede evitar la enfermedad sólo si la llaga inicial de contacto se encuentra en el área del pene o la vagina. Sin embargo, la transmisión puede ocurrir si la llaga no se encuentra en las áreas cubiertas por el condón.

Revised: Agosto 2004

(Footnotes)

[1] NEEDLE TIPS • January 2004 • Immunization Action Coalition, St. Paul, MN • www.immunize.org